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THERE is often a tendency among all of us to give *new* markets for our products attention out of proportion to their value as compared to *old* or existing markets.

Our biggest customer

The biggest market for porcelain enamel, at least up to the present time, is the field of cooking and heating appliances. We all know that so far no material or finish has been found that approaches the beauty, cleanliness and durability of porcelain enameled metal for kitchen appliances.

Enamelers appreciate these qualities and, for the most part, they are taken for granted by the stove and range manufacturers — but all we need do is talk to a few design engineers to find a weak link in our chain. *They* are all familiar with "what is wrong" with porcelain enamel, but as an industry we have not properly familiarized them with its "good" points and the fine improvements in our finish during recent years.

The fact that the industry has enjoyed its greatest volume from the "stove" field is all the more reason why sufficient attention and interest should be focused in this direction to fill in the gaps or "weak spots" (and the design engineers are one) in an otherwise satisfying picture.

How about new fields?

Giving proper attention to established markets need not prevent the industry from encouraging logical new uses. A few are being uncovered at present — many more can come later as a result of intensive product and market research activity.

Architectural porcelain enamel

Of the new fields entered prior to the war, architectural porcelain enamel unquestionably shows the greatest promise. We have heard more than one porcelain enameler say, "There is too much engineering required in proportion to the amount of porcelain enameled steel used to make the market attractive."

No one could have attended the P.E.I. Architectural Forum in Cleveland on June 7 without feeling the potential possibilities in this market. It seems clear that *someone* can furnish all the services required to do a complete and effective job — coordination is all that is required.

Two fundamental jobs

There are two distinct jobs that must be done in this field with the product as sold in the past.

First, the installation problem for the "veneer" product as sold prior to the war must be licked *on a national scale* — and it can be done.

Second, porcelain enamel must be established in the minds of architects, design engineers and the building industry in general as a *logical building material.*

These problems are not in any sense new, but it is good to see some action being taken by those primarily interested in this field. Properly handled, the building industry might well become the number one outlet for porcelain enameled metal.

The forum meeting left no doubt as to the continued interest among the large oil companies in porcelain enamel for filling stations. They have used it and know the problems, but they also know its many advantages as a result of *use in the field.*

This represents a most important outlet, and should be encouraged and fostered, but in any consideration of the building industry as a whole broader problems are presented.

An architect's advice

George F. Hellmuth, of Smith, Hinchman & Grylls, Inc., suggests:

"To establish porcelain enamel as an overall factor in the building industry a number of things must be accomplished.

"First, engineering studies must be undertaken to establish the use of this material as an integral part of a structure.

"Secondly, these new uses must be incorporated into various salable designs.

"Thirdly, some of these designs must be built . . .

"An advertising and public relations program must then be put to work to tell the world, and particularly the architect, what a fine building material porcelain enamel really is . . . "

A start is being made on every point suggested. The extent and strength of this program will unquestionably have a decided bearing on the future of porcelain enamel as a factor in the building field.

Dana Chase

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Armor plate, porcelain enameling—

and low temperature ceramic finishing

By W. A. Barrows • PRESIDENT, W. A. BARROWS PORCELAIN ENAMEL CO., CINCINNATI, O.

Exclusive feature finish

When the editor of *finish* visited our plant recently he commented on three phases of our plant activity and asked that we prepare for publication a few details in regard to each which should be of interest to *finish* readers.

These three phases of activity include porcelain enameling (which is our normal line of activity in peacetime), production of armor plate for combat vehicles, and the fabricating and coating (with low temperature ceramic finishes) of tent hoods for the Quartermaster Corps.

Armor plate production

There is nothing new about production of armor plate by plants in the enameling industry. It is well known that a number of enameling plants answered the Government's call for increased heat treating facilities early in the war and have been doing various types of heat treating work, thus helping to relieve one of the bottlenecks in early war production.

In early 1942 the facilities of our company were entirely converted to the heat treating and straightening of armor plate. During 1942 over 2,000,000 pounds of plate were processed for the Chevrolet armored car and in 1943 over 3,300,000 pounds of plate were processed for the International halftrack.

Our first production on armor plate was shipped just seven weeks after our order was received. In these seven weeks a new business was learned, qualification of the army proving grounds was received, and critical machinery was located, bought and installed.

The experience of our plant supervision proved invaluable in this connection. Our plant superintendent is a mechanical engineer from the University of Cincinnati and has had thirty years' experience in sheet metal work, including stamping and drawing operations. Our metal shop superintendent has had twenty-five years' experience in all types of metal fabrication.

Our company was one of the earliest enamelers in this work and we have continued hardening, drawing, straightening, and some hot forming of 5/8 inch and lighter plate in worth while tonnage throughout the war. A few details may be of interest in regard to the equipment used and methods of handling.

Enamel furnaces used

Inasmuch as we have confined our operations to "light" plate we have found it entirely feasible to use our standard enameling furnace equipment for hardening. This heat treating is accomplished in oil-fired box type furnaces.

We have found our muffle type enameling furnaces, controlled by radiation pyrometers, completely satisfactory for this work. For several years we have been recommending the use of radiation type pyrometers for enameling work as a means of taking accurate temperatures of the ware as against taking temperatures of the furnace atmosphere.

We have found this method of furnace control equally satisfactory when applied to the heat treating of armor plate. Equipment is so sited that it takes readings direct from the steel plates instead of from furnace walls or other sources of radiation.

Temperatures for hardening run from 1450° to 1700° F.; and heating cycles are from 30 to 90 minutes, depending on thickness of the plates.

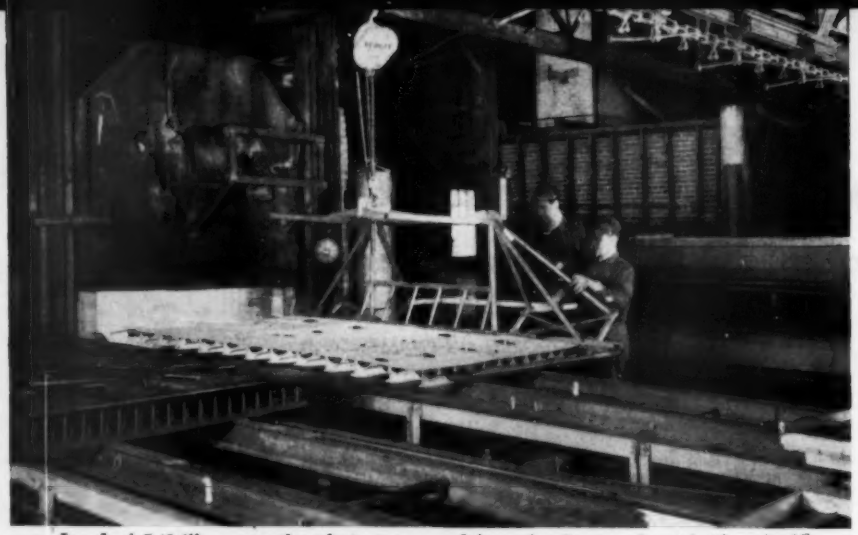
The plates are loaded on standard alloy "T" bars recast from scrap enameling bars. A typical load weighs approximately 1,000 pounds, and can, therefore, be satisfactorily handled in and out of the furnace with our heavy-duty loading fork.

A special "hay fork" was designed for unloading the bars and transferring the plate to the quench tank. The transfer rack is designed in such a manner that the plates can be moved rapidly from the furnace fork, by means of an overhead crane, and placed between an upper and lower "deck" of a spray quench.

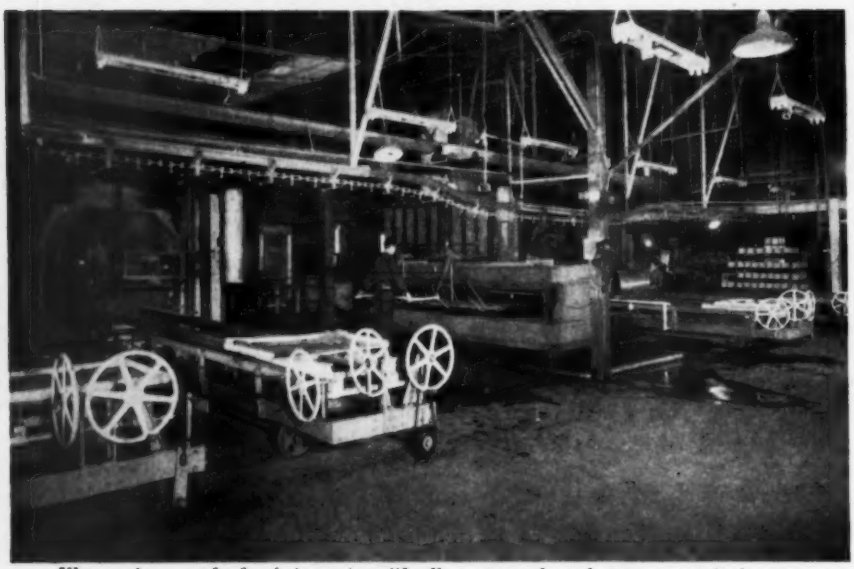
The quench is operated by a 600 gallon per minute pump, which sprays the plate thoroughly from both sides, with the water source only approximately ten inches from either surface.

W. A. Barrows

Mr. Barrows, company president, and his partner, Samuel G. Lang, vice president, represent two of the youngest and most aggressive operators in the porcelain enamel jobbing business. The owners of the business are both graduates of the University of Cincinnati. Austin Barrows has voiced the intent of pushing war production to the utmost as long as it is needed. He then wants to see the company forge ahead in their normal enameling business.



Load of 5/16" armor plate being removed from loading tools with "hay fork" designed by Barrows for this purpose.



Illustrating method of inserting "hot" armor plate between vertical spray nozzles in quench tank — shown in center of photo.

Corner of the Barrows fabricating plant where press brakes are being used to straighten 5/16" armor plate. These brakes are used to straighten plate up to 5/8" thick.

After quenching, the armor plate is transferred to our straightening department where plates are straightened in the conventional manner on press brakes.

Other heat treating which has been done successfully in our enamel furnaces includes heat treating of Army Bomber seats, which we also fabricate, and the heat treating of various aluminum aircraft parts such as Thunderbolt and troop transport plane parts.

New oven for drawing

We got into this work just about the time the new type low temperature ceramic finishes were coming on the market. This enabled us to "kill two jobs with one oven" by installing a circulating type, gas-fired oven suitable for drawing armor plate and for applying the new type alumina silicate finish as well.

The oven which we installed for this work is a straight-through type, making it possible to accommodate either armor plate or sheet metal parts of practically any length. The metal section or fabricated part that will go through a 3' x 4' opening can readily be handled in this equipment.

The fuel used is 1050 BTU mixed gas. The heating unit used has a maximum output of 1,200 cubic feet per hour, with complete safety controls installed to prevent explosion.

Burner control is provided by a Brown recording-controlling pyrometer. As a check on temperatures throughout the oven, readings are taken at eight different points and recorded by a Leeds & Northrup recorder-controller.

With this equipment we can vary the "zone control" in the oven for the job at hand — whether it be the drawing of armor plate or the curing of low temperature ceramic finishes.

Both ends of the oven have air screens for additional control.

When operating on armor plate this oven has a capacity of 4,000 pounds per hour. The oven is set to draw light armor plate in a cycle of 1½ hours.

Porcelain enameling

It seems good to see some porcelain

enameled ware going through a plant that in prewar days was devoted exclusively to this work. About the only change in our plant setup for porcelain enameling is the addition of a 40-foot conveyorized drier, heated with eighteen radiant type gas burners.

Government releases on some types of stoves, victory model ranges, etc., is again making the enameling of stove parts one of the important sources of work for the job enameling plant.

Present porcelain enameling work consists of a variety of fabricated parts for stoves, ranges, and heaters, and burner housings for coal oil ranges.

In addition we are enameling a number of parts needed for war products such as pump impellors, sink spouts for defense housing (steel tubing) and porcelain enameled laundry chutes for Government housing projects.

Alumina silicate finishes

When the alumina silicate type low temperature ceramic finish was specified by the Quartermaster Corps for use on products such as field ranges, army tent hoods, spark arrestors, tent shields, etc., it was logical that we go after a contract inasmuch as we were one of the first companies to install equipment suited for the application of this type of finish.

Our activity in this field was started only after exhaustive plant tests in a "pilot plant" established for this purpose.

After routine methods were developed for the satisfactory coating of steel parts with the alumina silicate finish, further tests were run on the coated parts, including boiling tests for solubility, extended salt corrosion tests, tests for thermal shock, impact resistance, scratch resistance, etc. Blow torch or flame tests were also run, as one of the important points in connection with the use of this type finish for army equipment was its fire resistance.

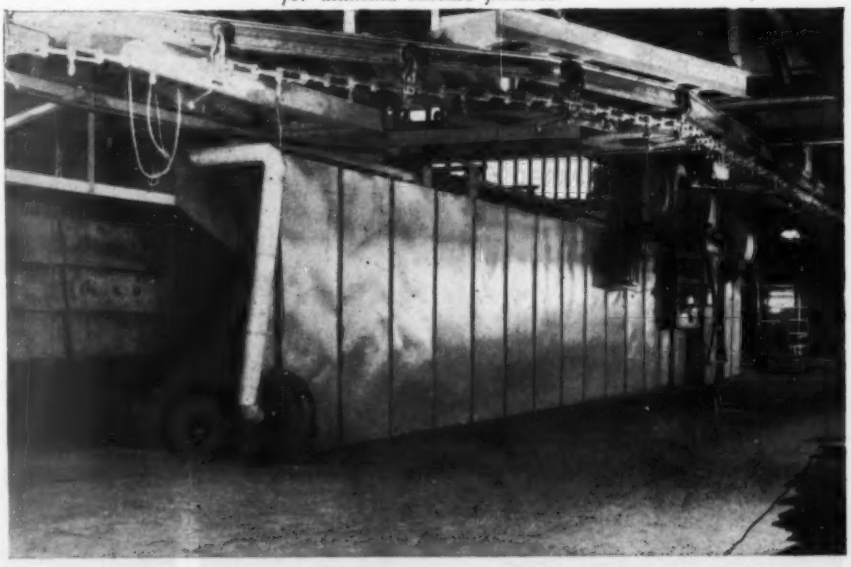
Army tent hoods

A tent hood is a comparatively sim-

Prewar view of the Barrows plant showing the overhead conveyor system for "feeding" the enameling furnaces.

Radiation pyrometer mounted in door of oil-fired enamel furnace. This type of equipment is used for both armor plate and enameling.

View of the straight-away, continuous, gas-fired, circulating oven with a load of armor plate for the drawing operation. This oven is also used for alumina silicate finishes.



Left: Assembling the tent hood on a press brake. Right: Final assembly of the lock seam construction is accomplished with an air hammer.

ple fabricating job, but must be made to "take it" in the field. We had to tool up for this job in approximately five weeks — and in order to get going fast, and fit the work in with other activity, we adapted press brakes to work that would normally be done on punch presses.

The steps in fabricating the hoods are as follows:

1. Shearing.
2. Blanking, notching and piercing.
3. Fold and flatten. (This is done on a press brake and includes the "stove pipe hole" and embossing the necessary identification.)
4. Flanging. (Bending flange and seam on finger brake.)
5. Main body assembly. (This is also accomplished on a press brake.)
6. Final assembly. (An air hammer is used to complete the closing of the lock seams.)

The completed hood is pyramidal in shape, the top of which is five inches square, and the open end of which is twenty-eight inches square. They are designed for nesting so that quantities can be transported in a minimum of shipping space.

Finishing operations

Our schedule calls for the production of 400 completed hoods daily. This means the cleaning and finishing of approximately two tons of 24 gauge hot rolled steel per day.

Cleaning is handled according to specifications in our standard pickle room built for porcelain enameling. It was found necessary to give a heavy pickle, a strong neutralize and a hot, fast dry as outlined:

Cleaner	15 min.	210°
Rinse	—	cold
Acid	20 min.	160°
Hot Rinse	—	140 — 160°
Neutralizer	15 min.	140°
Drier	10 min.	400°

We built a special spray room with a circular, over-head conveyor adjoining the entrance end of the continuous oven for finishing these parts. This spray booth was built especially for the job to speed up production and minimize handling.

The hoods are loaded on the overhead chain and one operator inside the spray room applies the alumina silicate coating from a sixty gallon pressure tank with a standard spray gun as used for porcelain enameling.

As the parts emerge from the spray room they are transferred immediately to the adjoining oven chain. The chain travels at a speed of one and one-half feet per minute, which allows ample time for preliminary drying before the ware hits the "hot zone."

This cycle is followed through twice for the standard two-coat finish specified by Quartermaster Corps.

Other products on which we have applied the low temperature finish include flame thrower nozzles, welding torch handles and other similar

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Left: Spraying alumina silicate coating in the especially designed circular spray booth. Right: Tent hoods emerging from the continuous oven.

FINISHFOTOS

Cooperative effort for producing

better enamelware at lower cost

(A report on the work of the P. E. I. Process Development Committee)

By Louis E. Nordholt · VICE PRESIDENT, TENNESSEE ENAMEL MANUFACTURING CO., NASHVILLE, TENNESSEE

SEVERAL months ago there was a war plant executive — a very busy, busy man who had been concentrating all of his time and efforts on the production of war equipment and munitions. He had not been able to do much thinking about the future but the time had finally arrived when it was necessary for him to do a little planning. Sometime in the dark past his factory had been a manufacturer of porcelain enameled products, so naturally his plans for the future were along the same lines. He called a meeting of his associates and together they outlined a postwar plan.

This plan called for an increase in production of 100% over their best prewar year. Naturally the plan would require a considerable change in equipment, plant layout and personnel. Now, if our friend could have had time away from his other duties he could probably have drawn up his plant layout, decided what equipment had to be purchased, etc. This, however, would have taken him several months of intensive study. He did not have the several months to spare, so he called in an engineer.

The engineer knew practically everything there is to know about an enamel plant. He knew all about the new processes and the new types of equipment that had been developed, and also the best of all the old methods and equipment. Our friend, the executive, did not worry about the cost of such consulting service because the engineer did not charge for his services. He was not married and did not drink whiskey, so he absolutely had no use for money. The engineer and the executive sat down one afternoon and planned a complete new plant, replacing all the old equipment where savings could be made and modernizing the existing equipment that could be used. At the end of the planning session the two conferees were able to predict a 100% increase in volume and a 27.3% savings in unit cost. They were able to do this because the engineer knew what he was doing.

We are all planning postwar expansion and if we could only hire our friend, the engineer, it would save us all thousands and thousands of dollars — not only in the cost of planning but also in the cost of operation. Who is this fellow? He is not any one man. No one has that many brains. If we could just take all the brains represented by technical and practical men in the enameling industry — put them in a jug and send them around to the various members of the Institute to use in their postwar planning, we could undoubtedly have one of the most remarkable industries in the United States. However, we can not do that — so we must find some other method of making all this knowledge and experience available. The first step is to appoint a committee.

The Process Development Committee was formed for the purpose of investigating and reporting methods, materials and equipment for producing better enamel ware at a lower cost. The future of the enamel industry will depend in a large measure upon its ability to make a better product and to make it at a lower cost. Cost is especially important from a competitive standpoint. Most of the finishes now competing with the enamels are competitive because they are cheaper and not because they are superior.

Let's discuss cost

We will touch upon three phases of cost: materials, labor and overhead. Under materials the two main items in an enamel plant would be steel and enamels, and together they constitute approximately 42% of the cost of the finished ware. The question of steel gauge can stand a thorough investigation — especially since the advent of lower firing and more opaque enamels.

The potential economies to be expected on enamels is even greater than the potential on steel. Thinner coatings, fewer defects, better reclaiming systems and the possibility of eliminating blue ground coats all should reflect themselves in our postwar costs.

Methods of application also have a bearing on enamel costs inasmuch as they determine to a large extent how efficiently the materials are being used. Methods, however, have a larger bearing on the efficient use of labor. Direct labor accounts for approximately 14% of the unit cost, and would you believe me if I told you that approximately 75% of the labor cost in the average enamel plant is used up in handling?

This does not even include indirect labor — such as shipping, receiving and inter-plant trucking, all of which are again handling expenses. A comprehensive report on handling equipment for enamel plants would certainly be a valuable document for the postwar planner. Such a report should begin with car unloading and deal progressively with metal shop practices, pickling, enamel prepara-

tion, enamel application, drying, firing, inspection, packing and shipping. It should also deal with the movement of parts from one operation to another.

Such a report would affect in part the remaining item of cost — overhead. In addition to the points I have just mentioned an attempt to reduce overhead will require an investigation of fuels, furnaces, driers, supplies and plans of inspection and supervision.

Committee meetings

The Committee on Process Development and Manufacturing Methods held its first meeting in Cincinnati on January 18, at which time subjects were assigned to committee members for investigation.

We decided to go into some of the new things first that might have been developed so we wouldn't be spending a lot of time trying to perfect some of the old ones that might be proved obsolete. Subjects assigned for study included:

Metal Cleaning, Pickling, Spraying, Drying, Induction Heating, Di-Electric Heating, Atmosphere Control in Furnaces, Air Cleaning, Dipping vs. Spraying in Application of Ground Coats, and Enamel Iron Development as Affecting Processes.

Another meeting was held in March, at which time progress reports were made on all of these subjects. Although none of the papers are yet ready for release, I can give you a little advance information on what you may expect.

Tentative reports

On *Metal Cleaning and Pickling* there are two investigations being carried on—either of which, if found practical, would revolutionize pickling costs. One of them is a method called *gas pickling*, in which the steel is treated in a hydrogen chloride gas atmosphere at temperatures from 1,000 to 1,350 degrees F. With this method no pre-cleaning is required and oxide can be removed in a fraction of the time necessary to pickle in acids. Another substitute for pickling consists of a *molten salt bath* in which parts can be immersed for a very short time, and this method also eliminates precleaning.

Under the subject of *spraying* a report is being prepared on *electrolytic precipitation.* This method is being used for paint application, and there is no reason why it could not be used for enamels. Whether or not there are any economies to be derived from its use remains to be seen, but there has been some work carried on applying to enamels. It has been reported that you can definitely see a decided difference between a one-coat piece, using the precipitation method as against conventional application.

Under the subject of *drying* a comparison is being made of the various

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This photo of a loaded continuous furnace in the Tennessee Enamel Mfg. Co. plant shows typical peacetime activity.

One of the company's wartime production jobs, and one in which they have been engaged since early in the war effort, is the production of bombs. This photo shows a scene on the "bomb" line.

The how and why
of sign advertising

By Ken M. Davee • DAVEE, KOEHNLEIN AND KEATING, CHICAGO, ILLINOIS

PART IV • The sign advertising budget

Exclusive feature finish

In determining what part of your advertising budget should be allocated to signs, consider the relative worth of all advertising media and make your decision accordingly.

Dealer signs of course can not replace other forms of advertising. This medium is not in competition with other media. On the contrary, sign advertising supports and makes advertising in other media more effective.

Sign advertising, on the other hand, can not be replaced by advertising in other media, nor can other advertising be of maximum effectiveness unless it has the ever-present, point of sale support of sign advertising. Comparisons with other forms of advertising which appear later are made for the purpose of showing comparative costs — not to indicate that one advertising medium can in any way perform the function of another. Each one has its place.

Identification comes first

Of course, if you are just entering a market, it may be necessary for you to precede all other forms of advertising with signs. It is scarcely conceivable that a bottler or a brewer or a petroleum marketer, to name a few obvious fields, could break into a market unless he had adequate sign advertising support right from the beginning. In such cases signs must come first, or simultaneously.

Also, it quite frequently happens that the promotional budget is so limited for a new product that only a single medium can be used. In such situations signs often serve as an effective introductory medium.

How signs introduced famous shaving cream

Burma-Shave, in the beginning, found signs an effective advertising medium for encouraging dealers to stock their product as well as for creating curiosity and interest among buyers.

They needed localized promotion that would convince druggists and other dealers that they would sell Burma-Shave if they stocked it. A territory-by-territory sign campaign was the major answer. This program was accompanied by sampling that followed up the interest created by the signs.

The results were truly astonishing to those who have never experienced the power of well-planned sign advertising. For a period of several years the Burma-Shave signs made the trade-marked name synonymous in the public mind with brushless shaving cream. The first brand name that popped into people's heads when anyone mentioned brushless shaving cream was Burma-Shave, and this is still true in a high percentage of cases today. No better example of the power of sign advertising is necessary than this one.

Consequently, the Burma-Shave experience is one excellent indication that relatively small advertising budgets can establish satisfactory distribution for a good product. This is particularly true in the introduction of a new product, though others have found the same effect applying to products that have been nationally advertised in other media for years.

Lining up new dealers economically

A building supply company with a new product created buying interest and obtained dealers in much the same fashion. They set up signs surrounding the towns in which they wanted dealers, naming their product and (on a separate panel) directing the reader to ask his dealer about it. A month after the signs were erected, salesmen called on prospective dealers and found a satisfactory percentage of them ready to stock the product. The panels on the signs were then changed to direct readers to the authorized dealer.

Any discussion of the budget for sign advertising must be based on the advertising value of the sign program. Obviously, the sign budget for some products must be greater than that for others simply because they lend themselves more readily to sales through this medium. For instance, a branded, packaged butter may sell very readily as a direct result of sign advertising and the advertising budget should provide for a relatively large number of signs; a piano manuacturer, on the other hand, may very well be able to get surprising results with sign advertising, but will not need to allocate anywhere near as much of his budget to this medium.

When a product is established and identification is in place, it is of course necessary to define the sign budget along somewhat different lines than in the case of a new product. Additional sign advertising should be considered in terms of (1) the need for better identification — that is, larger signs to catch the eye of a faster traveling public—and (2) any possible needs for unification of a varied series of signs now in place, or replacement with better designed sign copy.

Quite often the existing signs are not powerful, consistent, attractive, or unified enough in their design and

GOODYEAR
TIRES
EMPLOYEE GARAGE
"Other forms of advertising can not have maximum effectiveness unless they have the ever present, point of sale support of sign advertising."

This standard Goodyear electric sign is widely used for low cost day and night identification. Porcelain enameled faces and filler edge make maintenance "as easy as washing a window."

effect to produce the selling results that are possible. That is usually because the sign program has not been properly planned in the past along the lines indicated previously and in the sections to follow on sign copy, layout and materials. Consequently it is essential for a goodly number of advertisers to analyze the existing sign program carefully. Then they can determine whether or not it would be profitable to devote a good share of the sign budget to revamping of the sign advertising for a period of one, two, or three years, thus affording a better "foundation" for the building of sign programs for future years.

Comparative evaluation of sign advertising

However, the first point — comparison of sign advertising value with that of other media — is the consideration that usually rules the decision on the budget. One of the most scholarly and revealing comparative studies of the value of the various media was made by Harold R. Owen. This study appeared in a booklet, "Getting the Most for Your Electric Advertising Dollar," published by the General Electric Company. Mr. Owen began with this logical foundation:

"Salesmanship is ability to sell. The most excellent method of evaluating this in advance with respect to a medium is by comparative analysis of its component parts. The final measure of value may be defined as the cost per effective impression. This includes not only the quantity but also the quality of sales impression to be made."

Mr. Owen then measures the comparative cost of the leading advertising media, including signs of the spectacular and the store identification types, on the basis of the delivery of quantity of advertising impressions made. In these comparisons, he obtained the Audit Bureau of Circulation figures for newspaper and magazine circulation, the Traffic Audit Bureau's figures for outdoor advertising locations, and local surveys of radio audiences.

As Mr. Owen says, this analysis applies to the rates available in a specific metropolitan area. The figures will vary slightly in other localities, but the general relationships will be about the same. In appraising your specific situation you should, of course, obtain the circulation figures applicable to your locality.

Advertising for 2 cents a thousand readers

The store front sign considered in the analysis includes complete maintenance at a lease rate of $25.00 a month. Yet the cost per thousand *net advertising circulation* was only two cents.

Mr. Owen set up twelve elements desirable in an advertising medium. He assigned each one of them a proportionate share of total significance, a sort of par value. Each of the leading advertising mediums were rated according to the way they compared with par. The table showing this comparison is shown. (Page 20)

Mr. Owen cautions:

"It should be emphasized that the elements, evaluation, and net results will vary considerably under other circumstances. The extremely low cost of the store front electric sign may be considered misleading to a local advertiser who has only one store, which would not justify the expense of a program as comprehensive as the above."

Sign advertising compared with newspaper space

And then he takes a particular store, analyzes the traffic that passes it, figures the cost of a single sign, and serves up a comparison of the sign's advertising value compared with that of a similar investment in

newspaper space. He describes as follows his comparison of these two media as they furnish each one of the twelve desirable elements of an advertising medium:

1. Prestige — Media are considered equally desirable in this respect.
2. Attention value — A three-color porcelain enamel sign of 60 square feet obviously has greater attention value than a small black and white display; and at night the colorful illumination will increase this factor.
3. Time of exposure — Adequate in both instances.
4. Repeat circulation — The newspaper is limited to one impression per person whereas much of the traffic will pass the store repeatedly.
5. The Permanency of impression — Electric sign greatly favored in this regard.

To illustrate the efficiency of signs in creating a permanent impression, it is well at this point to mention a test made before the executive board of a large company. A spectacular sign installation was being discussed and the man making the presentation asked how many of the eleven men present recalled the Corticelli Silk display showing the kittens playing with balls of silk thread. This spectacular had been located at a position familiar to everyone present. Ten men recalled seeing it; one hadn't. Most of them distinctly remembered the details. Then they were given some idea of the memory value of that sign. They were astonished to learn that the Corticelli sign had not been in operation for 19 years!

6. Adaptability of copy — Newspaper has greater flexibility in this respect.
7. Selectivity — This factor is of primary importance in the case of a single store. This store caters to a certain class of trade which customarily shops in this district, whereas the newspaper covers and charges for all classes. This sign is the preferred medium in this respect.
8. Waste circulation — Closely related to above element. Sign is favored.
9. Coverage — In this particular case, not more than 1/5 of the population in the area read this newspaper; practically everyone in the neighborhood passes the store, many of them frequently.
10. Position — Counter attractions exist in both cases, assumed to be equivalent.
11. Timeliness — Sign is considered the more favorable in this respect in that it is visible and attractive during the daytime when the store is open, as well as at night.
12. Sales Consummation — In this case the sign has a great advantage. Its impression is made at the only place where the sale may be consummated, the point of purchase. As a self-sufficient medium it is effective, and it adds to the effect of advertising in other media.

Mr. Owen tabulated his evaluation of these two media.

Figures presented are not so much for their value as they may be di-

"It is essential for a goodly number of advertisers to analyze the existing sign program carefully . . . to afford a better 'foundation' for the building of sign programs for future years."

Analysis of the Comparative Value of Sign and Newspaper Advertising For a Particular Retail Store

Elements Considered	Par Value	Daily Newspaper	Electric Sign
1. Prestige	5	5	5
2. Attention	8	3	8
3. Exposure	3	3	3
4. Repeats	3	2	3
5. Permanency	15	5	15
6. Copy	5	5	2
7. Selectivity	10	5	10
8. Waste	10	1	10
9. Coverage	10	2	10
10. Position	3	2	2
11. Timeliness	3	2	3
12. Sales	25	2	25
*A — Impression Factors	100	37%	86%
B — N.A.C. per Thous.	$	.05	.05
C — Cost Per Thousand Effective Impressions	$	.135	.058

rectly applied to your own particular advertising situation, but to illustrate how you can figure the comparative value of sign advertising with advertising in other media. Consider both the *quantity* and the *quality* of the circulation you are getting in each medium, reduced to a common denominator such as cost per thousand impressions; and see for yourself why large sign users are looking at the mass advertising value as well as the outlet identification value of the signs they were buying and erecting before the war interfered with their plans.

As to your own particular appropriation for signs, the percentage of your total advertising budget which should be allocated to sign advertising varies greatly with the type of business and, in many companies, it has varied greatly from year to year. As the man who directs all display advertising for one of the "Big Four" cigarette manufacturers said, there seems to be cyclical attention to signs in his company. His company at one time bought doorplate porcelain enameled signs by the carload, and found them a successful medium for low-cost sales stimulation. They turned their attention to other forms of promotion for a time, and just before the war the company was again using an increasing number of signs.

One-third of total appropriation for sign advertising

Another company has increased its usage of signs steadily through the years until now one-third of its total appropriation is devoted to dealer signs. Standard Oil of New Jersey, due to a change in marketing policy that called for the uniform identification of several subsidiary companies, bought 25,000 identification signs and had them erected, in one six-months period. Standard Oil of Indiana undertook, in a two-year campaign, the improvement of their station identification — a program that involved the purchase of more than 21,000 signs. Texaco, Sinclair and National Refining have all undertaken extensive sign campaigns in recent years. The desirable volume in porcelain enameled signs represented by these companies alone can be readily seen.

As was mentioned in Part I, the study of 299 national advertising budgets in 1935 showed a variation of sign appropriation from nothing to 21 per cent. Many other companies not operating on a national basis spend from 33⅓ per cent to one-half of their advertising appropriations for signs.

Where you will set the budget for your company is up to your own measurement of the value of various media in terms of your needs. The best managed companies, however, are giving more and more attention to dealer identification. At the same time, the low-cost advertising effect of complete sign programs is being more generally recognized.

That explains why one of the leading tire companies has been spending a larger and larger amount for identification signs each year for the last six or eight pre-war years, even though during that time the company has become more and more critical of the type of dealer added. They believe that signs are an economical mass advertising medium. Coca-Cola demonstrates that they are following a similar policy. A count of their signs in a test city shows that in the face of a more highly competitive

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Effective Impression Value of Various Advertising Mediums

Elements Considered	Par Value	National Magazine	Daily News	Radio	Poster	Spectacular	Store Sign
1 — Prestige	8	6	4	4	3	8	6
2 — Attention	10	8	5	8	6	10	8
3 — Exposure	3	3	3	3	2	1	1
4 — Repeats	3	1	1	2	3	1	3
5 — Permanency	15	5	5	5	5	15	10
6 — Copy	5	5	5	4	3	2	1
7 — Selectivity	5	5	5	5	5	5	5
8 — Waste	10	10	10	10	10	10	10
9 — Coverage	10	2	3	2	10	2	10
10 — Position	3	3	3	3	3	3	3
11 — Timeliness	3	3	3	3	3	3	3
12 — Sales	25	5	5	10	10	5	25
*A — Impression Factors	100%	56%	52%	59%	63%	65%	85%
*B — N.A.C. per Thousand	$	.85	2.00	1.50	.08	.83	.02
*C — Cost per thousand Effective Impressions		$ 1.52	3.85	2.54	.127	1.28	.024

* The first line of totals (A) denotes the per cent of effectiveness of impressions. The second line of totals (B) denotes the cost per thousand impressions N.A.C. The third line of totals (C) combines these factors into Cost per thousand Effective Impression Value.

For tougher, whiter enamels Seeger counts on Lufax

OPACIFIER FOR ENAMELS

THE extra whiteness that gives display cases an added touch of eye-catching attractiveness . . . the extra toughness that spells lasting finishes . . . Seeger Refrigerator Company gets both these advantages through the use of LUFAX.

This outstanding zirconium opacifier has convincingly demonstrated its value in the production of tough, highly opaque porcelain enamels characterized by lasting whiteness and gloss. And besides . . .

LUFAX IS AVAILABLE

without restriction. Made from materials obtainable in ample quantities, it offers an excellent replacement for hard-to-get tin oxide and antimony.

EVERY LUFAX PROVIDES THESE ADVANTAGES

- ✓ **Greater thermal shock resistance**
- ✓ **Greater resistance to chipping**
- ✓ **Truer, whiter color**
- ✓ **Better working properties**
- ✓ **There is a LUFAX for all types of frits — antimony-free or antimony-bearing, regular or acid-resisting.**

LUFAX is a trade-mark, Reg. U. S. Pat. Off.

3 awards to Rohm & Haas Company and its associated firms, The Resinous Products & Chemical Company and Charles Lennig & Company.

ROHM & HAAS COMPANY

WASHINGTON SQUARE, PHILADELPHIA 5, PA.

Manufacturers of Chemicals including Opacifiers Plastics Synthetic Insecticides Fungicides Enzymes Chemicals for the Leather Textile Rubber and other Industries

Porcelain Enamel Institute

13th annual meeting

A group of keenly interested enamel industry executives met at the Cleveland Hotel, Cleveland, Ohio, on Tuesday, June 6, for the 13th annual meeting of the Porcelain Enamel Institute.

The Board of Trustees met in a morning business session, and this was followed promptly by the annual meeting, which was opened by President Pierre B. McBride, president, Porcelain Metals Corporation, Louisville, Ky.

Richard H. Turk, new president, has long been active in affairs of the Institute, and has served as vice president for several years.

Blaring headlines had announced the European INVASION, and in deference to those fighting overseas President McBride proclaimed a minute of silent prayer.

The first business of the meeting consisted of a presentation of the nomination slate for a new Board of Trustees by R. G. Calton, executive vice president of Tennessee Enamel Manufacturing Company, Nashville, Tenn., and chairman of the Nominating Committee. The Committee's nominations were unanimously elected.

The new officers elected for the ensuing year are:

President: R. H. Turk, executive vice president, Pemco Corporation, Baltimore, Md.

Vice President: O. J. Heyer, president, Chattanooga Stamping and Enameling Company, Chattanooga, Tenn.

Vice President: J. T. Penton, president, California Metal Enameling Company, Los Angeles, Cal.

Treasurer: Wm. Hogenson, president, Chicago Vitreous Enamel Product Company, Cicero, Ill.

The resignation of Charles S. Pearce as secretary and managing director was accepted and a handsome watch was tendered in appreciation of his services with the Institute.

Following acceptance of the resignation of Mr. Pearce, Edward Mackasek, formerly executive vice president of Beaver Enameling Company, Ellwood City, Pa., and for the past five months with the P.E.I. as development engineer, was elected to succeed Mr. Pearce.

Mr. McBride discussed the proposed West Coast Division of the Institute, the idea for which was originally sponsored by J. T. Penton. It was explained that the articles of incorporation have been drawn and the new division is "ready to go."

First on the afternoon program was Paul R. Fritsch, The Goodyear Tire and Rubber Company, Inc., Akron, Ohio, who discussed "Principles of Sign Identification." Mr. Fritsch is considered one of the country's outstanding sign authorities and has had wide experience in the use of porcelain enameled signs.

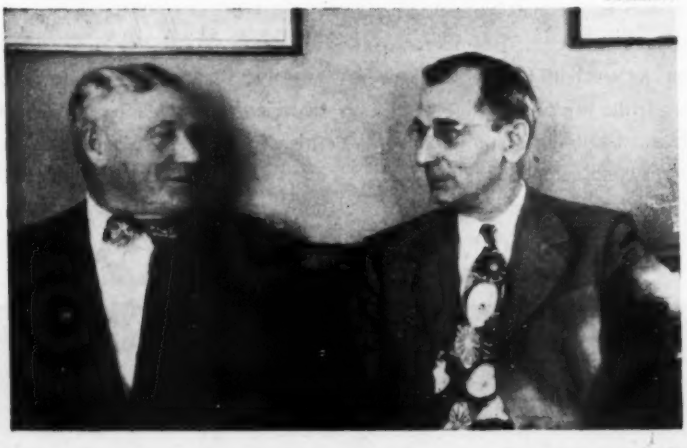
Louis Nordholt, vice president, Tennessee Enamel Mfg. Co., Nashville, Tenn., followed with a complete report on the work of the P.E.I. Process Development Committee. He referred briefly to many new processes and types of equipment that are now available to the enamelers, and indicated many more will come into use when the war is over.

J. F. Sweeny of Walker & Downing, Pittsburgh, Pa., agency handling the Porcelain Enamel Institute promotional activity, offered a detailed outline of the work that is being carried out in line with the plans of the Market Research and Market Development Committees. Typical layouts of new booklets and advertising scheduled for trade publications were shown, and plans for the distribution and use of the material explained.

Digests of speeches presented—

Wm. Hogenson, re-elected treasurer, a post which he has held since the early days of the Institute; and Otto J. Heyer, newly elected vice president.

FINISHFOTO



Retiring president's address

By PIERRE B. MCBRIDE

You will naturally expect an outgoing president to reminisce, and while I would like to briefly review the highlights of the last four and a half years, as I see them, I want to emphasize and dwell on the real opportunity that I believe the Porcelain Enamel Institute has to be of service to our Industry in the months to come. Let me ask you this question. By what measure should a trade association, representing a small industry with diversified products such as ours, be judged? If you answer that the success of its promotional activities is the real measure of merit I think you will be correct, and yet by that same standard, eliminating our war activity, the past four years, in my opinion, have been *mostly unproductive.*

Plans for promotional activity were made but it soon became apparent that any funds available would be more wisely spent in coordinating the organization with Government thinking in the Defense Effort. However, let's not overlook the fact that in the fall of 1940 the most effective sales promotional project ever developed by the Institute was begun, and if the war had not interfered the table top labeling venture would have spearheaded other promotional developments that might have been equally successful.

You may recall how difficult it was for most members of this industry, during the spring and summer of 1941, to reconcile plans for their individual companies to a war operation. How the officers were criticized for insisting on an all-out effort to understand Government objectives at that time.

I think I am safe in saying that it wasn't until September 9, 1941, when Mr. Todd of the American Rolling Mill Company told us in Cincinnati that we probably wouldn't get more than 35% of the steel during 1942 that we had purchased in the year previous — not until then did we, as a whole, really become aware of the seriousness of our situation.

It was just one month later in Chicago that an industry wide meeting voted to form the "Defense Committee of the Enameling Industry" and use the facilities of the Institute to orient our plants with the preparations for war. The budget for 1942 was increased and the headquarters were moved from Chicago to the Nation's capitol. Intense activity was

FINISHFOTO

now apparent throughout our industry. Many members were studying their physical facilities in terms of war buying and the Washington office was busy guiding members to various bureaus, both in person and by telephone. The heat treating conferences were organized and crowded by our associates, and by the summer of 1942 we were individually and collectively organized for war. How well we, as individuals, succeeded is evidenced by the many awards of merit such as Army-Navy "E" flags presented to enamel plants, as well as the very large dollar volume of sales — mostly on items with which we were not familiar a few months previously.

Since an industry association that accepts sales promotion as its first tenant must always lead rather than follow the thinking of its members in order to be successful, your officers again brought down upon themselves the wrath of several substantial contributors by suggesting, during the summer of 1942, that then was the time, industry members having been organized for war, to start planning for the peace.

A Post-War Committee was appointed on August 4, 1942, and the long task of organizing market research figures and market development plans began. Shortly afterward a Process Development Committee started its lengthy studies. The wisdom of starting early was quite apparent when fourteen months later Mr. Ritchey, chairman of the Market Research Committee, and Mr. Dadisman, of the Market Development Committee, presented to the Institute the results of their committees' long labors on October 1, 1943.

How thoroughly and how successfully the work was done is probably a matter of various opinions for you, but for the officers of your "study club" there can be only one answer, expressed by the amount of money you vote with which to endorse it. And so last November when you readily agreed to spend *four* times the 1940 budget during 1944, the show was an "S.R.O." as far as we were concerned.

Let me tell you of those phases of this organization which I think you will agree with me are pitifully weak.

We use our highest salaried employee, our managing director, the talent that we employ to study and develop our markets, to collect bills. In my opinion we should have a membership committee who openly and frankly report to the executive committee and the trustees. . . . We wouldn't, in our own plants, year after year, mill one hundred pound batches of enamel in a thousand pound mill, and yet that is what we are doing in the P.E.I. The administrative organization could, with very little more expense, handle considerably more productive work.

Did anyone ever see as many trade associations blooming within one trade as we have in our little enamel industry? All of these projects carry a heavy administrative burden within an industry that can ill afford such dissipation of its small promotional efforts. These projects are all indica-

tive of a healthy demand for results, and they should be encouraged, but if we want to get the most for our money they should be grouped under *one administrative organization* in order to reduce the overhead, but most of all, they should be grouped to *spearhead* the *promotional* drive.

The correction of these is desired by all of us, but the means of making the corrections will hurt some, and for others it will necessitate giving up pet procedures in the interest of concerted action. In a few months we will emerge from a long and destructive war period. The changes and their impact on the industry are going to be terrific. Briefly, and simply, we are in a business of selling a *finish*, from which it is not easy for us to convert, and after this war the greatest competition in all history will be where *finishes* are involved. How well we succeed will depend upon our aggressiveness, sound planning and, most of all, united effort.

Acceptance remarks of the new managing director

By EDWARD MACKASEK

I have learned considerable about running an association in the five months that I have been in Washington. It is by no means a simple task and requires a combination, in fact a rare combination, of qualities which I don't think I actually possess. I think it requires somewhat the flexibility of a Houdini, the characteristics of a Machiavelli, the diplomatic skill of a Disraeli and finally, some of those characteristics possessed by an angel. Nevertheless, I shall do what I can in order to carry out the policies and to perform the duties of the office in the efficient and fine way in which Mr. Pearce has demonstrated they should be done.

I believe in porcelain enamel. I believe that the industry has by no means acquired the heights which are still possible. We have the opportunity of entering into new fields and I am heartily in favor of the policy of a greater promotional effort. I believe that would have been done had not a great deal of the time been required up to the present for organizing. I think that is behind, and that an opportunity presents itself. I think a fine job can be done, but only in one respect and only through one method, and that is that the attitude of the members must also change in regard to their relationship to the Porcelain Enamel Institute.

I have seen too much of this — having made the contribution, the members have sat back and said, "Let us see what you can do with it," and I think if you get back and direct the program and put *yourselves* into it as well as your contributions of money, there is no question but what a great future lies ahead.

I don't believe we have exhausted the possibilities of the business which we have been in, and while it looks glamorous to get new business, a great deal can be done by a more intensive cultivation of those fields which we are engaged in at the present time.

PENNSYLVANIA PHOTO

I believe in the Porcelain Enamel Institute. I believe the Institute not only furnishes a meeting ground on which you can discuss your common problems and resolve on common action, but I believe the Institute is the authoritative voice of the industry, and as such it is listened to much more intently than that of any individual company in it. That has been my experience in several instances, and I have been very much impressed with the fine reception I have received where I have attempted to represent the Institute interests for the entire group — a better reception than where it has been presented as an individual.

Progress is, of course, in every industry, of two types. You have the vertical type, in which the individual companies improve their own position through their own efforts. But there is a greater thing necessary at the present time — today — and that is a horizontal type of progress in which the industry as a whole raises itself, and I believe that the Industry can function better through the Institute than any other way in that type of progress.

Finally, I believe that you must recognize, as Walter Pitkin has stated, that a trade association like every other human enterprise is no better than the men, materials, methods and management that go into it. If it is to be a success, it must be in a position to guide and to lead in research. It must be able to gather the best experts in the field, the strongest men. It must be able to gather ideas, sift them, sort them, and finally initiate projects. If it can do this, then it is worthy of every support you can give it. . . .

Principles of sign identification

By PAUL R. FRITSCH

Identification is the first requisite for a retail business. It is fundamental and functional. Fundamental because it is an essential part of the business, to capitalize on the traffic that passes the store. Functional because it indicates on the outside what kind of goods and services are available on the inside. Merchants may

start in business or do business without a lot of things, but not without identification.

Dealers are fully aware of the value of identification for nationally known products. It isn't enough to be identified as a tire dealer, or a clothier, or as an automobile dealer. Goodyear tires, Fashion Park Clothes or Chrysler Automobiles pack more power and dealers are not slow to take advantage of the power. Millions of dollars invested over long periods of years in newspapers, magazines, radio and direct mail have blanketed every community. To funnel this public acceptance into their stores, dealers need and use point-of-sale identification.

Any kind of an identification program will produce some results; but effectiveness increases in proportion to amount of effort, planning and organization that goes into the program.

Before considering details like types of signs and kinds of materials, there must be a long range program, which might be called the over-all strategy. This program defines the objective for a period of years. Each fiscal year program is tailored to the long range objective.

The strongest elements in the long range plan are *uniformity* and *economy*. Uniformity is accomplished not only by uniformity in the design of signs. Uniform identification is composed of (a) uniform design of the sign and (b) some uniform pattern in the installation.

The over-all plan dictates the function of the individual parts and when the function is established then the detail specifications of these parts can be ascertained.

In a long range program each year of effort adds something to the previous year. At the end of five years the effectiveness, either in number of identified outlets or in quality of the identification, will be in proportion of five years of effort.

Without a long range program each year of effort is a "solo" affair very likely competing with the previous year's efforts and presenting a confused pattern all of the time. A simple example is in the design of the sign. In one year a square sign may be used, and because there is no long range plan, the temptation is to change that sign to some other color or shape the next year. If one hundred accounts have been identified the first year with the square sign and a hundred more the second year with a round sign, the advertiser in effect has two separate operations of a hundred dealers each instead of the strength there would be in two hundred dealers uniformly identified. He has, therefore, wasted a considerable amount of money. He has made the first hundred obsolete the moment the second hundred appears, and you can see how disorganized this pattern becomes after five years of such antics. Furthermore, with no organized plan on design, there will be no uniformity in installation. It is bad enough to compete with other identification signs without setting up competition within the family by a loose policy which permits these things to happen.

FINKENFOTO

Mr. Fritsch says:
". . . it is not true that the use of a cheaper finish always results in true economies."

With the combination of an established field service for installation and a definite organized identification plan, we attained more effective identification with a fewer number of signs. Because our field service was trained to get the best positions, our sign purchases soon reflected sound field knowledge in installation.

Looking at the operation from 1926 to 1940, our field service made it possible to determine precisely what types of signs were most satisfactory, and reduced the variety from twenty-two to six types of diamond signs, three of which accounted for over eighty per cent of the units. The twenty-two types were horizontal signs, vertical signs, oval curb signs and others. The diamond sign program started with six types ranging from three foot to eight foot diamonds, and field experience soon showed that three of them took care of eighty per cent of our installations — those consisting of the four foot double face, the four foot single face and eight foot single face.

In facing the issue squarely and counting in all costs, it is cheaper to assume the entire identification obligation, which includes installation, than it is to ship signs to dealers. The cost of misused signs on "direct-to-dealer" shipments is tremendous.

A long range program does something else which is effective in maintaining the uniform program and maintaining economy. Whenever a new idea is submitted for identification the first test it must meet is "will this idea make our diamond sign program more effective?" If it does not contribute to the long range program the idea is discarded. Obviously, when there is no long range program it is very easy to get sidetracked into tricky, flashy ideas which muddle up the general identification picture, increase costs and which very shortly turn out to be ineffective.

It isn't true that every identification job requires porcelain and it is not true that the use of a cheaper finish always results in true economies. Identification costs must always be figured on the basis of the completed identification. *The buyer is only "kidding himself" when he concludes that a sign costing four dollars is cheaper than a sign costing six dollars when the difference is due only to a different type of finish.*

The Porcelain Enamel Industry has constantly stressed durability, long life of finish. I don't think there has to be so much stress on that. You have to remember that every

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Left: E. L. McIlhenny, Detrex Corporation, and G. H. McIntyre of Ferro Enamel Corporation. Right: H. H. Wineburgh, Texlite Corp., is interested in signs and architectural porcelain.

SNAPSHOTS AT

Left: W. A. Barrows attends the Institute luncheon. Right: Harry J. Hart from Porcelain Metal Products Co. of Pittsburgh.

Lower left: Wolverine Porcelain's Emmet Dwyer. Circle: Smiling "Connie" Given of Great Lakes Steel Corp.

Left: George Blome, long an active participant in Institute activity. Right: J. M. Hurd of Ingram-Richardson Mfg. Co. of Indiana.

P.E.I. MEETINGS

FINISHFOTOS

Left: Walker & Downing's Lee English. Right: Briggs Manufacturing Company's O. F. Depperman.

Lower Left: "Bob" Calton, Tennessee Enamel's executive vice president and past president of the Institute. Lower Right: T. E. Stokes of Clyde Porcelain enjoys the proceedings.

→ *from Page 25*

housewife is acquainted with that feature of porcelain enamel. I don't mean that it should be ignored, but I do believe that the industry has to do a job of showing a customer how he can get the full potential life of porcelain enamel. A sign that is never erected is not delivering lifetime service. A sign that is poorly erected (hence not easily visible) isn't delivering a lifetime finish.

P. E. I. advertising program

By JOHN F. SWEENY

" . . . You are on solid ground in this activity, as shown by many other outstanding association programs sponsored by groups of manufacturers who have a common problem of selling their type of material or process or service against some competitive material or method. . . .

"In planning this program there were certain definite objectives in mind. At this point, let me warn you *not* to look for a flood of inquiries or calls as this advertising gets under way. You have nothing radically new or novel to offer your trade. They are familiar with porcelain enamel — at least to a degree — and although they may not be entirely up to date on all the latest developments in the art, they certainly know what porcelain enamel is. Porcelain Enamel does not have the appeal of something new and wonderful that has just come out of the chemist's tube, and for that reason your advertising can not be expected to stimulate a flood of requests for booklets such as might come from the announcement of some new and unique material. However, that does not mean that this activity is not needed, or will not be effective.

"Our job is more in the nature of an up-hill educational program — aimed to counteract the promotional efforts of newer materials. Users and prospective users of porcelain enamel have been bombarded by glowing accounts of the prospective advantages of this or that new material. Naturally, they could easily lose sight of the proven advantages of old reliable porcelain enamel, unless something is done about it. So we propose to remind these people of the many valuable, unique and time-proven advantages of porcelain enamel, to show where and how it can be used, and the long and satisfactory service users can expect from porcelain enamel. Of course, we do have new things to talk about and improvements in product to bring to the attention of the trade — and these will be emphasized in the advertising material. Therefore, we might say that our objectives are long-range rather than immediate, and that the first objective is to *remind* the trade of the inherent advantages of porcelain enamel. . . . "

Some of the publications mentioned as being included in the Institute advertising program were: Architectural Forum, Sweet's Architectural Catalog, Furniture Manufacturer, Retailing Home Furnishings, Product Engineering and Modern Industry.

Mr. Sweeny explained that each trade paper campaign will be adequately supported by literature and direct mail followup.

Editor's Note: Finish suggests that requests to the Institute for publications be held until the release on the various pieces of literature has been announced by the P.E.I. The program is now in its early stages, and it is our understanding that all material is not yet available. We will keep our readers posted.

NEW PORCELAIN ENAMEL INSTITUTE BOARD OF TRUSTEES

Cooperating

W. J. Murphy, American Potash & Chemical Corporation, New York, N.Y.
R. A. Dadisman, American Rolling Mill Company, Middletown, Ohio
R. J. Ritchey, Carnegie-Illinois Steel Corporation, Pittsburgh, Pa.
R. R. Danielson, Metal and Thermit Corporation, Carteret, N. J.
L. D. Mercer, Republic Steel Corporation, Cleveland, Ohio

Table Tops

R. R. Trubey, Clyde Porcelain Steel Corporation, Clyde, Ohio
Joseph Foster, Enamel Products Company, Cleveland, Ohio
J. H. E. McMillan, Ingram-Richardson Mfg. Co., Beaver Falls, Pa.
R. G. Calton, Tennessee Enamel Manufacturing Co., Nashville, Tenn.
E. H. Weil, Vitreous Steel Products Co., Cleveland, Ohio.

Signs

G. S. Blome, Baltimore Enamel & Novelty Co., Baltimore, Md.
W. A. Barrows, W. A. Barrows Porcelain Enamel Co., Cincinnati, Ohio
J. T. Penton, California Metal Enameling Co., Los Angeles, Cal.
Milton Gallup, Porcelain Metal Products Co., Carnegie, Pa.
H. H. Wineburgh, Texlite, Inc., Dallas, Texas

Frit

Wm. Hogenson, Chicago Vitreous Enamel Product Co., Cicero, Ill.
C. D. Clawson, Ferro Enamel Corporation, Cleveland, Ohio
E. M. Hommel, The O. Hommel Company, Pittsburgh, Pa.
R. H. Coin, Ingram-Richardson Mfg. Co. of Indiana, Inc., Frankfort, Ind.
R. H. Turk, Pemco Corporation, Baltimore, Maryland.

Jobbing

O. J. Heyer, Chattanooga Stamping & Enameling Co., Chattanooga, Tenn.
E. G. Walbridge, Erie Enameling Company, Erie, Penna.
P. B. McBride, Porcelain Metals Corporation, Louisville, Ky.
W. U. Pfaeffli, Strong Manufacturing Co., Sebring, Ohio
Emmet Dwyer, Wolverine Porcelain Enameling Co., Detroit, Mich.

Porcelain Enamel Institute

Architectural forum

THAT there is distinct industry interest in the development of architectural porcelain would not be questioned by anyone attending the Institute Architectural Forum, held in Cleveland on June 7.

In addition to enamel plant executives, the meeting was attended by engineering representatives from a number of the leading oil companies, by several well known architects, and by representatives of the architectural press.

Richard Turk, newly elected Institute president, opened the Forum. He referred to the enviable war record of the enameling industry and urged that the same initiative be continued in connection with the "new work" of the future.

H. R. Spencer, treasurer, Erie Enameling Company, Erie, Pa., was appointed chairman of the meeting. In his opening remarks Mr. Spencer said, "I feel we have a long way to go . . . the ultimate effect on the public is the important thing."

The first feature of the program was a colored motion picture, "Architectural Porcelain Enamel on the West Coast," presented by representatives of Carnegie-Illinois Steel Corporation, with Carl Block acting as narrator. This movie, which has been reported on previously in *finish*, included among the installations shown the Grass Valley Hospital (March *finish*, page 18) and the Golden Gate Turf Club (June *finish*, page 13).

First feature speaker on the program was George F. Hellmuth, of Smith, Hinchman & Grylls, Inc., Detroit, Michigan, who covered "What the Architect Wants to Know."

"Problems of Filling Station Design and Erection"* were discussed in a talk by M. van der Kloet, Gulf Oil Corporation, Pittsburgh, Pa.

The next feature on the program was an extemporaneous discussion by Charles Bacon Rowley, Cleveland architect, who has had considerable experience in the designing of porcelain enameled structures.

The balance of the meeting was allotted to "forum discussion," which was enthusiastically entered into by enamelers with experience in the field of architectural porcelain enamel, representatives from leading oil companies who have been using porcelain enameled steel for filling station construction work, and other guests such as Messrs. Jones and Goldman of Architectural Forum Magazine, and Professor R. M. King of Ohio State University.

**To be presented in August finish.*

What the architect wants to know about porcelain enamel

By GEORGE F. HELLMUTH

Until porcelain enamel is used on its own merits it can not have a wide acceptance as a building material. It is, however, a beautiful decorative material subject to almost limitless variations of color and texture. Sheet metal can easily be formed into a wide variety of shapes which adds the value of plasticity to your product. It can be easily cleaned and is durable. Moreover, it is a material which lends itself readily to mass production and can also be combined with concrete. These latter properties should cause porcelain enamel to play an important part in the industrialization of the building industry.

Up to this time, porcelain enamel has served construction in superficial ways only, as a covering for store fronts, small theaters and filling stations. Let us say that the advertising properties of color and shiny surface have been recognized. Unfortunately my impression is that the architectural profession, while well aware of the fact that porcelain enamel is used on some structures, and too frequently with garish results, doesn't realize the wonderful possibilities of this material. . . .

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To establish porcelain enamel as an overall factor in the building industry a number of things must be accomplished. First, engineering studies must be undertaken to establish the use of this material on its own merit as an integral part of a structure. Secondly, these new uses must be incorporated into various salable designs. Thirdly, some of these designs must be *built*. . . .

An advertising and public relations program must then be put to work to tell the world, and particularly the architect, what a fine building material porcelain enamel really is. After all, there is little difference to the eye between terracotta and porcelain enamel, the variation being principally in the material supporting the glaze.

Erection of structures embodying new uses of porcelain enamel on its own merit as a prime building material would result in an enormous amount of spontaneous favorable

editorial comment which would be a factor in increasing sales.

I remind you of one basic fact in the training of an architect — he is taught to dislike and avoid imitations. I hadn't been in school twenty-four hours until my professor had written the word "truth" in large capital letters on the blackboard, and then proceeded to show how that basic virtue must be inherent in all good architecture. Therefore the architect, as such, has been trained to avoid and be suspicious of imitations, metal granite blocks, metal shingles which look like tile — in short, all construction which does not frankly show what it is including, all coverings which do not contribute to the strength or utility of the structure.

The following engineering problems should be exhaustively studied and experimented with:

a. Development of standard panel shapes of proper size to best accomplish the average job.
b. Methods of joining the sheets one to the other to facilitate construction and to make a water tight job.
c. Methods of attaching sheets to the structure so that they would be firmly held for the life of the building and could be replaced in event of damage.
d. Methods of backing the sheets to avoid vibration and ways of incorporating insulation so that the proper thermal environment could be maintained.

Porcelain enamel has, among others, two outstanding properties that should be more fully explored as related to building. First it lends itself to being formed and it is, therefore, an ideal material to be shaped and stamped into kitchen, bathroom, lighting, heating fixtures and many other important elements which should be a built-in part of the structure. Its use as a wall surface into which pockets could be stamped to form light sources, for an example, have certainly just been touched.

The second outstanding property of this material is its eye appeal. It has, perhaps, more potential beauty than any other building material, limitless color variations and textures are economically possible. . . . People will pay more for beauty than for anything else on earth, and I am convinced that your material could be outstanding in this respect.

In the near future kitchen and bathroom interiors are going to have their mechanical elements integrally designed so that the wall, and perhaps ceiling, will be the same material; that is what I visualize for the house of the future. Porcelain enamel's properties of a clean and sanitary appearance, plus its adaptability to mass production, certainly suggests a much wider acceptance of the material for many interior uses—hospitals and the like.

Summing up what the architect wants to know about your material. First, you must establish correct uses as an integral part of the structure through engineering and architectural studies and analysis. Second, develop simple and positive method of specifying color, and further experiment with textures. Third, have some of these buildings built. Fourthly, tell and demonstrate to the world that your material is durable. . . .

Extemporaneous remarks on architectural porcelain

By Charles Bacon Rowley

"We have heard a good deal about porcelain enamel in regard to buildings, all kinds of buildings. I said in the very beginning when porcelain enamel came up as a building product that I didn't think ordinary sheets would get by because they would be wavy, and if there is one thing the architects don't like, that is anything that looks cheap and tinny.

"One of the questions that came up was, if you are going to make a panel, how are you going to fasten the panel on the wall? As you know, there are any number of different devices that have been brought out and so far, as far as I know, everyone of them is expensive to use. I think there is a large field still open as to how to put this material where it belongs and where it will stay put. . . .

"I think everybody who has had anything to do with this product realizes when you are dealing with steel, the drawings are exact. They have to be made and erected exactly where they go, almost the way marble is handled. The marble drawings are very similar to what you have with porcelain enamel. They are labeled. They are dimensioned and they have to fit. If they don't fit, you are in trouble.

"Now one of the things that is always discussed is how much gloss. When we were building the prefabricated house of Wheeling, West Virginia, for the Wheeling Corrugated, which was a laboratory house to see whether mass production would or would not work, we were going to cover the outside with porcelain enamel panels. We finally came to the conclusion if you would mark a piece of enamel with a No. 2 pencil and would wet your finger and rub it off, you would reach the degree of gloss we wanted. That worked out pretty well, as a rule of thumb yardstick. . . .

"From the remarks I can get from those I think are well-posted, there won't be such a radical change (in the building industry) as what we had before the war. But there will be more prefabricated units made in the shop and sent to the job. . . .

"I feel that there is a great deal of work that should be done with caulking. The average building which is of a permanent nature should last for fifty years and should be designed to last for fifty years."

These principles, Mr. Rowley explained, should apply to wood furring, caulking and all materials used.

"Another thing that I think the Institute might do is to have published, in some form, a recommended method of washing. It is all very well to say you just wash the house. Well, how do you wash it, and what do you put in the water that won't hurt the caulking? Your chain again is only as strong as the links in it, and if your caulking and your joints

go to pieces then, naturally, you are in trouble.

"Way back in '32 or '33 we built a house using porcelain enamel shingles. We had to cut a number of these shingles on the job for the valleys and so forth, and I wondered at the time just what was going to happen where these cuts had been made. On examination about a year ago there was very little, if any, corrosion at those joints.

"Keeping steel from the elements is one of the most difficult things and one of the biggest maintenance items that I know of. There is nothing better than your porcelain enamel as a protection. . . . "

Forum discussion

H. R. SPENCER, *Erie Enameling Company* — "The enamelers know that porcelain enamel properly compounded and fused will last indefinitely, and we know it so well that we never think of telling the architect — who doubts it. . . .

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H. R. Spencer

"I want to say that it is my own personal opinion that in the manufacture, packing, delivery, erection, caulking and washing of a porcelain enamel veneer job, the contract all belongs to one man and that man is the enameler.

"One theory that might help in this trouble about erecting porcelain enamel is to have a maximum of the work done in the shop and a minimum in the field."

W. A. COURTNEY, JR., *Sun Oil* — "I was interested in Mr. van der Kloet's suggestion about erection. We have discussed that very thing, and we were going to suggest that you pool your erection sources because that has been our worst problem."

Mr. Courtney also indicated "proper packing" as a problem. "As far as 'life' of porcelain enamel is concerned, I can point to buildings over twenty years old with porcelain enameled roofs on them (including installations in salt air conditions such as Atlantic City) that are perfect today."

J. A. HOLCOMB, *Wolverine Porcelain Enamel Company* — "Our company made the first roofing installation to my knowledge back in 1924, and that is on a residence in Detroit. It is in as good condition today as when it was first installed. . . .

"We have come a long way and we have learned a lot since then. We are mighty proud of some of the work we have done in the last five years.

"We have given installation details considerable thought. We feel it is foolhardy to take just an ordinary galvanized clip and allow a mechanic to go on the job and pound it into a building and break off the galvanizing. If you look at that clip several years later, you find it is ready to fail. It is rusted and corroded. We have endeavored to use the best materials that we could use — brass or bronze, or some noncorrosive metal or protect them in a way they will stand up. We have had the occasion to take off some of our panels that have been up 8 or 10 years and we have found the installations very good and the materials in them very good."

L. S. KNIGHT, *Standard Oil of Ohio* — "I think Mr. van der Kloet's suggestion is excellent. Proper erection has been one of our big troubles."

HARRY REACH, *The Atlantic Refining Company* — "I would say our experiences have been quite satisfactory, even as to erection, and we have the general contractor doing the erection. That might be due to the fact that our design is more simplified than some of the other companies. . . .

"I wouldn't say it takes an *expert* (to install porcelain enamel). We like to select our man, so we know from past experience that he can give us a satisfactory job. . . .

"I would say that not *every* carpenter can do it, but every *trained* carpenter could."

H. E. SCHABACKER, *Erie Enameling Company* — "I think the enamelers have such a high regard for the permanence of their material they never question it and talk about it enough, but I think the enamelers also have to think about the backs (of panels). I think it is perfectly true the enameler hasn't in the past taken enough care of complete coverage, particularly on the back. He has wanted to get a nice looking job and whatever there was on the back, O.K., and it can corrode from the back if the back is not covered. I think we all have to watch that."

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W. A. Courtney, Jr.

ROBERT NEREM, *Standard Oil of Indiana* — "Since we started in 1937 with porcelain enamel on iron as veneering material for our service station buildings there have been other troubles, but the main trouble is installation.

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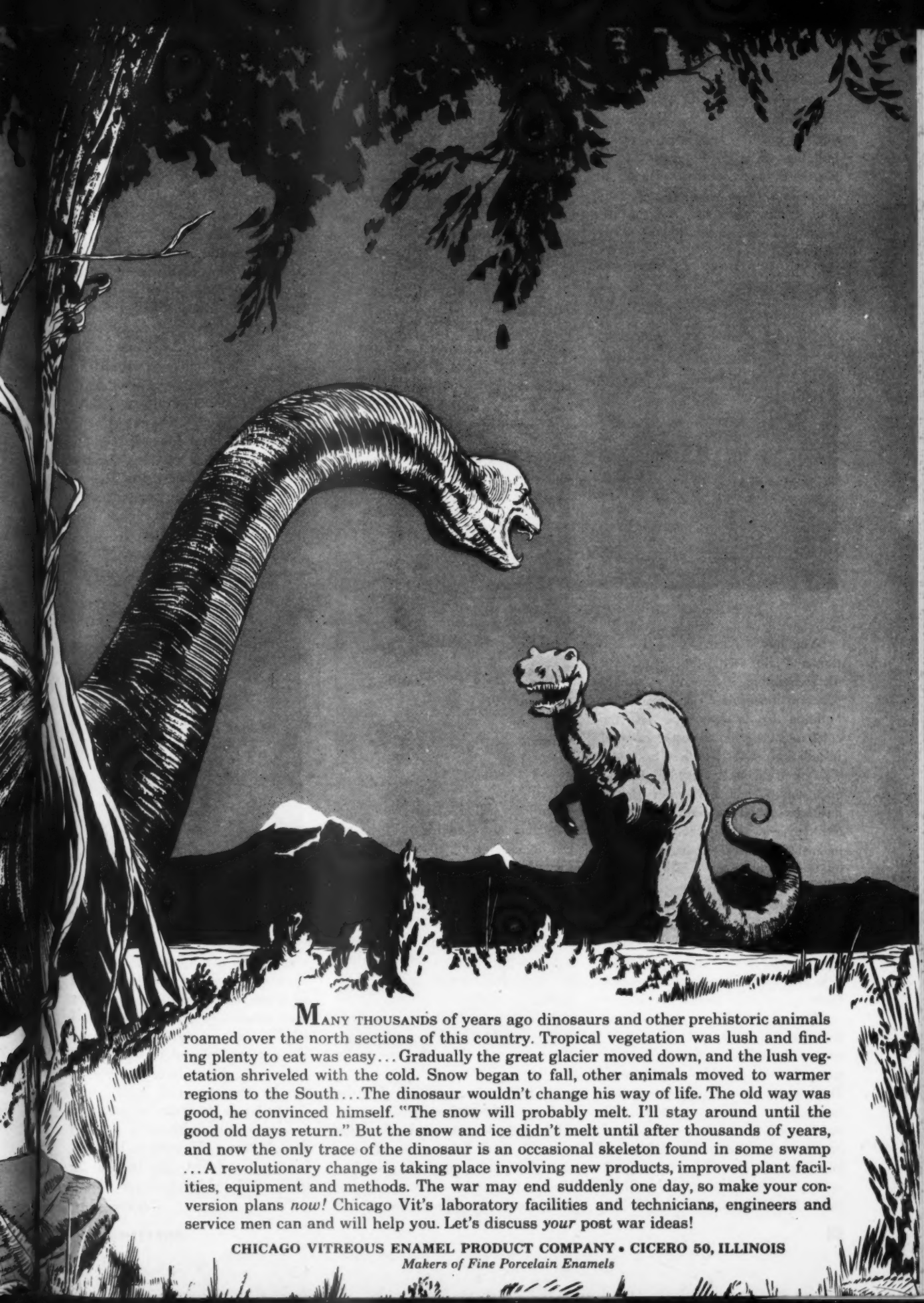

MANY THOUSANDS of years ago dinosaurs and other prehistoric animals roamed over the north sections of this country. Tropical vegetation was lush and finding plenty to eat was easy... Gradually the great glacier moved down, and the lush vegetation shriveled with the cold. Snow began to fall, other animals moved to warmer regions to the South... The dinosaur wouldn't change his way of life. The old way was good, he convinced himself. "The snow will probably melt. I'll stay around until the good old days return." But the snow and ice didn't melt until after thousands of years, and now the only trace of the dinosaur is an occasional skeleton found in some swamp ... A revolutionary change is taking place involving new products, improved plant facilities, equipment and methods. The war may end suddenly one day, so make your conversion plans *now!* Chicago Vit's laboratory facilities and technicians, engineers and service men can and will help you. Let's discuss *your* post war ideas!

CHICAGO VITREOUS ENAMEL PRODUCT COMPANY • CICERO 50, ILLINOIS

Makers of Fine Porcelain Enamels

→ *from Page 31*

"I had a chance to travel throughout the country and inspect several buildings where porcelain enamel has been used as a veneering material. Those buildings were all the way from 4 to 7 years old, and the material in some respects surpassed expectations.

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L. S. Knight.

"You may come to a service station and find in the early spring a dirty building before the painting program is started. Then in another building that is clean, you have the color and luster equal to the original installation. . . .

"Our problem now is to find proper installation methods — by that I mean fastening devices for the panels. It seems to me there is some inconsistency in applying porcelain on a piece of metal which is probably the best corrosive protection you could find, and then fastening that panel with a clip that has some of the poorest means of providing against corrosion — and we find these clips rust out and we have to replace them.

"Also, the mastic or the caulking is a question that could be considered, and I think a lot of experimentation can be made in that respect. The importance of detailing the joints so that the caulking material will stay in place and the selection of proper caulking materials is likewise important. In fact, if I am permitted to use my imagination and talk as many feature writers, I would like to see a material that would entirely replace caulking compound and give a more permanent installation.

"I would like to stress the importance of cooperation between the industry and the architect and the engineer, or, in other words, those men who make it their life profession to create buildings. If the industry can get to the point — and I believe we are approaching that now — or did before Pearl Harbor — where they realize that the job isn't finished when the material is crated and goes to the job, and that men must be trained to erect the material properly, then we will have the kind of satisfaction we are looking for."

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Robert Nerem

PROFESSOR R. M. KING, *Ohio State University* — "Caulking is a pet subject of mine. I might say it is somewhat of a pet *peeve*. About five years ago, under the sponsorship of the Porcelain Enamel Institute, we put out some panels on a background at the University for tests on caulking compounds. About a third of them at least deteriorated within three weeks. I would say about 75 per cent of them were in unsatisfactory condition over a period of two years. There are only three that are really standing up.

"I feel it is necessary for the caulking compound companies to develop special compounds for this work. I don't believe the problem of caulking compounds is insoluble. The fact that we have three good ones would make it appear that it has already been solved in some instances. Possibly they can be improved. . . .

"Another difficulty, of course, with caulking compounds is that they are put in poorly, just as some erections are put up poorly. . . .

"I would like to underline the statement that along with erection, compound and the clips, the manner of attaching clips is tremendously important. The enamelers are doing a better enameling job than the erectors are doing an erecting job.

"In regard to the Munsell color system, I would like to remind you that about 7 years ago, out of the testing development program at the Bureau of Standards, a test by which we would use the Munsell classification was started at the Bureau of Standards. I assume it has been bypassed, or is a war casualty, and that it will be rejuvenated sometime in the near future."

G. F. HELLMUTH, *Smith, Hinchman & Grylls, Inc.* — "There is still a great deal of emphasis on the present practical use of porcelain enamel as it has been used, just as covering over another structure. The point I tried to make in my talk is that until you get way beyond that point you are never going to have a very large use for your material.

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G. W. Gray

"As far as durability of materials is concerned in architecture, we don't think in terms of 5 years or 10 years, but some architects like to think in terms of 25 and 30 years, and I know

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Institute of Cooking and Heating

Appliance Manufacturers mid-year meeting

MEMBERS of the cooking and heating appliance manufacturing industry met in Cincinnati June 7, 8 and 9 to discuss industry problems and afford an opportunity for a "get-to-gether" with representatives of the various Government agencies involved in the production and distribution of their appliances.

Wednesday was devoted to essential business such as the meeting of the Board of Trustees and action on various problems relating to industry activity.

A meeting of the members of the Bituminous Coal Research Group with members of the Battelle Memorial Institute was scheduled for Wednesday afternoon.

Thursday's General Session

Thursday morning's session opened promptly with a "get-down-to-business" attitude among those present. John E. Russell, president, Majestic Manufacturing Company, St. Louis, Mo., opened the morning session with a complete report on Institute activity. Said Mr. Russell, "We are now going through perhaps the most trying stage of all—we are endeavoring to continue war production at the levels required, while at the same time resuming the manufacture of civilian goods in the hope of cushioning the shock of unemployment which would result from the sudden cancellation of our war contracts. We can not afford to fail in either job. We must *first* meet our war contract schedules, and we must somehow be prepared to go back into full and normal production of our peace-time products as fast as war developments permit . . .

"Our best assurance of a sound stove industry program in the reconversion period lies in honest, intelligent unity of action among all members of this industry. We must learn to know and fairly consider the points of view of our fellow manufacturers and of the Government representatives who are handling the industry program, so that our present work on production, pricing and rationing may be replaced by efforts to design and merchandise the best possible stove products and values of which this industry is capable, in the post-war period. Our production methods must be improved and simplified, distribution costs lowered, and in general we must be sure that we continue to make progress in giving the consumer the best possible value for his dollar. If we fail in this we shall not only shirk our responsibility to re-employ our veterans, and generally to increase employment in this industry, but we shall also lose our market to other more aggressive consumer goods industries."

Obligation to the public

M. F. Cotes, vice president, Duo-Therm Division, Motor Wheel Corporation, Lansing, Mich., then talked

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M. F. Cotes

on the subject "The Stove Industry's Obligation to the Public," which was later referred to as one of the finest talks ever presented before the Institute group. Included in his remarks were the following statements:

"We in industry are servants of the public. Therefore, we should examine and frankly evaluate our actions in the light of this responsibility if we are to successfully fulfill our obligations in the difficult days ahead. . . .

"A number of our individual companies have resumed manufacturing of essential civilian merchandise on a limited basis, and I believe it can be expected that many more will resume some civilian production before the year is out. Thus, the partial reconversion of a large segment of our industry from the production of war materials to the production of cooking and heating appliances is already under way. Moreover, because it is essential that people have proper facilities for keeping warm and preparing foods, it is entirely logical that this industry *should* be among the first to face the problem of reconversion. . . .

"During the reconversion period our prime objective will continue to be the fabrication of war materials—*plus* the secondary consideration of again producing serviceable quality merchandise at fair prices for *essential civilian use.* I emphasize the *essential* because certainly we should not try to sell new stoves where they are not necessary, but neither should the average consumer be forced to use worn-out equipment which may be wasteful of fuel and food. As I see it, the above objectives of our individual companies, and our industry as a whole, all meet the acid test of coinciding with the public's best interests. . . .

"Now that we are again on limited civilian production, we should most certainly plan individually and as an industry to meet the problems of efficiently operating our individual businesses on a basis of one-half war production and one-half civilian production. Most certainly too, we should look beyond the war and make plans for the time when we will be able to

once more return to that blessed state where we will be producing civilian cooking and heating appliances on a 100 per cent basis. *We must plan now to be prepared for Peace!* . . .

"We must provide jobs for the men returning from the armed services as well as the men no longer engaged in war production jobs. In short, we must learn how to utilize our manpower and our productive resources as well in the production of peace-time products as we have in the building of the tools of war. Manpower, both present and future, *demands* the formulation of a constructive industry policy *now*. . . .

"It has been my thought from the very beginning of this war period that we, as an industry, have identically the same common interests as those in Government service charged with the responsibility of administering war-time controls . . . I repeat, we are mere servants of the public. Every man who works for the Government, regardless of his capacity is an employee of the people. Therefore, when all is said and done, *we are both working for the same boss*. . . .

". . . We can best serve the public interest by first doing our utmost to help with the war, and second, supplying the public's essential requirements for cooking and heating appliances. If service to the public governs our actions, we will do a constructive statesmanlike job in the reconversion period and put our industry's public relations on a sound basis."

War Production Board represented

Wade T. Childress, deputy vice chairman for operations, War Production Board, explained some of the current problems that must be faced cooperatively by WPB and the stove industry in a talk entitled "Pulling the Load Together," and answered some of the anticipated questions of stove manufacturers.

Said Mr. Childress:

"The War Production Board's first concern, and the sum total of all its energies, are now—as they have always been—devoted to assisting the Armed Services in their efforts to equip our fighting men with the things they need most, in quantities sufficient for the task. The magnificent response of American industry, both management and labor, to the needs of the military has, by and large, now made it possible for us to supply most of these needs in adequate amounts.

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Wade T. Childress

"With the exception of a relatively small list of components which are still in short supply and a few items the recent need for which could not have been anticipated, our rate of production today is satisfactory. We can now afford to consider, and indeed can ill afford not to consider, some of the problems which will face us when that day comes, as it ultimately must, for substantial cutbacks in the military program. While we believe this can be done without impairing the main objective, there are many who feel that such planning is premature and psychologically bad for the country. Countless others convincingly argue that the American people can wage a better war if manpower and our manufacturing resources are utilized at the maximum rate.

"In the sporadic and comparatively insignificant war contract terminations which have taken place so far, ample evidence is available to prove that the workers thus released do not all find themselves essential jobs in another war industry. A very substantial proportion, particularly women, disappear from the scene and become a net loss to the labor force of the Nation. Although relatively small in numbers, this fact has already had a depressing effect upon total production. Thus, should the military requirements call for greater output at a future time, our ability to get back to peak performance might be seriously jeopardized. . . .

"While materials generally will be made available to you in increasingly larger quantities than in the past, certain items will still be in short supply. Your own ingenuity will have to be stretched to the limit in order to get out the production which we know is needed and which we believe you manufacturers would like to put on your books. Shortages will be principally in sheet steel, 16 to 22 gauge, which is very tight because of new and unforseen requirements of the military inventories. Temporary engineering changes might be required in order to adapt your units to an inferior grade wire. Thermostats and switches, I am told, are available for the most needed items, but again will be difficult to obtain.

"In connection with material generally, I should like to offer a suggestion: When your people find yourselves unable to place orders on the mills or upon the warehouses in time to meet your manufacturing schedules, take your problems to the field offices of the War Production Board, where sizable and well-assorted inventories of existing materials are constantly coming to light. Obviously, if these surpluses can be disposed of, pressure on the mills can be proportionately deflated, which in turn will put them in position to accept orders at an earlier date for civilian business. Your help in reducing the size of these inventories will be a contribution to the war effort. . . . "

Mr. Childress stressed the fact that the greatest single problem that will face industry in the next few months is *manpower;* and urges the employment of women, cooperation with local Government agencies, local Chambers of Commerce and other manufacturers as aids to the solution of this problem. *to Page 38* →

Left: Ferro's Dudley Clawson. Above: H. M. Scott and "Bill" Burke from Ohio Stove.

THE STOVE MEETING

Above: Mr. and Mrs. Ed Karr of Karr Range and Mr. and Mrs. Don Foster of Qualified Stove attending the banquet. Right: Roberts & Mander's president H. S. Minster, registers amusement.

Left: E. D. Doucett of Detroit Lubricator, and Bruce Wilson, Washington representative for Motor Wheel Corp. Right: H. B. Hitchcock and Robert G. Abbey of General Refractories.

MORE FINISHFOTOS NEXT MONTH

"The WPB had approximately 600 Limitation and Material orders in effect on January 1 of this year. These orders of course touch every phase of American industry and they have been deemed necessary to conserve the facilities and the resources of the Nation for war production. During the past 5 months we have been able to eliminate some 50 orders and make less restrictive approx. 150 more. . . .

". . . Under the present policy of the War Production Board, I believe you may be assured that sensible steps will be taken to remove restrictions promptly so long as their removal will not in any way impair nor imperil the war effort. . . .

"Many of us, in our darker and weaker moments, are likely to take a pessimistic view of what the future holds. Most of you here today have had first-hand experience with new inventions, new techniques, new ideas which if properly applied by an intelligent industry and a cooperative Government, may revolutionize the lives of all mankind. If we can go forward together in the trying months to come, *win the victory* and then jointly apply the same effort and ingenuity and guts which have characterized the production of war material, I think we shall find ourselves on the threshold of a new and satisfying adventure."

A designer speaks his piece

Lead-off man for Thursday afternoon was J. Gordon Lippincott, head of Dohner & Lippincott, New York design studios.

Mr. Lippincott anticipates completely automatic cooking equipment. He holds that past products for feminine use have all too frequently been designed by engineers without thought as to consumer needs. He believes that manufacturers are beginning to realize the importance of the housewife's opinion.

"The American woman," said he, "has gone to war. The fact that she has spent many months in war industries using machine tools has made her far more aware of mechanical things, and as a result she will be a more astute buyer in the postwar years."

Here's a man with whom the porcelain enameling industry should be far better acquainted, for in his talk Mr. Lippincott pointed out that the conventional porcelain enamel is *not* an ideal finish for stoves. He predicted that aluminum and stainless steel will enter the range field. **(Get busy enamelers!)**

Business and Government

John W. Darr, vice president and general manager, Institute of Public Relations, Inc., New York City, spoke on the subject indicated, and pointed out that the decision as to whether

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Harry J. Holbrook

we shall have state socialism or free enterprise in the United States depends upon business men themselves. He advanced a three-point program for government-business cooperation.

"First," said Mr. Darr, "it is incumbent upon business to keep government fully, honestly and sincerely informed of business problems and business conditions. This is not a question of lobbying. This is not a matter of propaganda. Lobbying and propaganda, in the worst sense of these terms, are the opposite of what I have in mind. I refer rather to a straightforward job of providing accurate, reliable information to government officials and legislative committees, so that when they act they will have a sound factual basis on which to proceed.

"Secondly, sound personal relations must be established between business and government. Neither must attempt to dominate the other. Each must respect the other. Government officials, legislators and businessmen must learn to sit down around a table, and through a process of give and take to thresh out the problems with which they are jointly concerned. Where businessmen have neither the time nor the talent for carrying on relations with government officials in this spirt, those who are qualified by experience and training to do so should be retained for the purpose.

"In the third place, businessmen must regard service in government agencies, at least for limited periods, as a duty they should not shirk. Men who have worked in industry, trade and finance are especially well qualified to fill administrative posts in the government and to become members of Congress, as our wartime experience has amply shown. Since the government is going to carry out certain economic functions, the business community cannot turn aside and, when government posts are being filled, merely say 'Let George do it.' The more Donald Nelsons, the more Charles E. Wilsons and the more John M. Hancocks we have in government, the more certain it will be that government and business will learn to hang together instead of to hang separately. . . .

"Good government relations are a very important and vital part of good public relations. Business must assign some of its best brains and do some of its hardest thinking to establish such sound relations to take the place of the name-calling and the hard feeling of the past ten years. And in effecting this urgently required reform in government-business relations, full advantage should be taken of the experience of those who have had to tackle this problem repeatedly and work out sound solutions over the past difficult decade."

Question and answer period

A panel of Government representatives were present to discuss the problems relating to their specific divisions.

Production orders L-23-b and L-23-c, and other problems having to

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Architectural enamelers sponsor development work

Following the annual meeting and architectural forum of the Porcelain Enamel Institute in Cleveland a group of prominent architectural enamelers, who are working on the engineering problems concerned with the proper development of architectural porcelain, held a meeting to discuss this work. The aim of this group is to sponsor development work that will lead to the acceptance of architectural porcelain by architects and the public as a standard building material rather than merely as a veneer.

Great progress in this development work is reported, and the participants enthusiastically agreed to finance its continuance.

Metal & Thermit organization changes

Homer F. Staley, manager of the Ceramic Department of the Metal & Thermit Corporation, retired May 1st after twenty-three years of service. He was the honored guest at a testimonial dinner given by his many friends and associates in the Metal & Thermit Corporation at the Waldorf Astoria Hotel in New York City.

R. R. Danielson, who has been associated with Mr. Staley as director of ceramic research for the past eighteen years, has been appointed director of ceramic service. He will also continue to direct the development work in connection with the company's ceramic products and their applications at their Ceramic Laboratory, Carteret, New Jersey.

George C. Betz, formerly connected with the Star Porcelain Company and the Foote Mineral Company, has been appointed sales manager of the Chemical Division of the Corporation with offices at 120 Broadway, New York, New York. He will be in charge of the sales of all ceramic chemicals and opacifiers.

Fall dates and discounts mandatory for heating stoves

Manufacturers of domestic heating stoves must continue their pre-war practice in quoting fall datings and anticipation discounts on sales of stoves, the Office of Price Administration said recently.

There is indication that some manufacturers of stoves are uncertain about the relationship of ceiling prices to these practices. The maximum price regulation covering domestic heating stoves requires manufacturers to continue "all the greatest discounts, freight and other allowances and price differentials quoted during the period January 15 to June 1, 1941, to each class of purchaser," OPA said. Accordingly, a manufacturer who quoted fall datings and anticipation discounts in connection with the sale of heating stoves during the base pricing period must now quote them.

NESA pushes standards program

Reports from the National Electric Sign Association show that the work of the Standards Committee is well under way. Since Chairman Lewis Carroll, The Lackner Company, Cincinnati, Ohio, submitted his proposal for a comprehensive program at the April 23rd Board of Directors meeting, considerable progress has been made toward the development of the "NESA Electric Sign and Service Standards."

The association is now undertaking a survey of electrical sign companies in the country in order to secure statistical information on the industry. The figures gathered will be made available in summary form and individual contributors will be anonymous. In this way no company need be reticent about divulging confidential data. The Board of Directors feel that the industry will recognize the value of this activity and give their full support to make it successful.

Questionnaire on maintenance standards

A special questionnaire developed by E. D. Lamdin, Walker & Company, Detroit, Michigan, chairman of the Maintenance, Repair, Service and Guarantee Section of the NESA Standards Committee, has been mailed to each active member of the Association. The purpose of this survey is to determine the various maintenance and service practices now in use, and to obtain suggestions for improving present methods.

Vollrath Company appoints new sales manager

The Vollrath Company, Sheboygan, Wis., announces the appointment of Mr. Carl H. Richmeier as sales manager. Mr. Richmeier received his education at the University of Wisconsin, and has been associated with The Vollrath Company for the past twenty-four years. Since 1940 he has served as a member of the management committee.

Quick Meal Division of American Stove wins Army-Navy "E" Award

Army and Navy Officials and the representatives of American Stove Company receive the Army-Navy "E" Flag. Reading from left to right: Commander Premo, Major Gatley, Mr. Segedin, President Stockstrom and Lt. Col. Coward.

For "excellence in the production of war material" Quick Meal Division of American Stove Company, St. Louis, Mo., has been awarded the Army-Navy "E" Pennant.

During impressive ceremonies, the firm was given special praise for speed and versatility displayed in switching from the peacetime production of gas ranges to the production of high explosive shells, heavy demolition bombs, small fragmentation bombs, auxiliary gas tanks for airplanes and parachute flares.

Arthur Stockstrom, who began with American Stove as a foundry molder in 1914 and is now president, accepted the "E" pennant from Lt. Col. Richard W. Coward, chief executive officer of the Army's St. Louis Ordnance District.

This award was one of four received almost simultaneously by American Stove Company. The other three included the U. S. Treasury "Minute Man" Flag, awarded to The Aircraft Division, Cleveland; The National Security Emblem to The Quick Meal Division; and a letter of commendation from General Arnold.

New Maritime Commission awards announced

In recognition of outstanding production achievement, six manufacturing companies have been awarded the U. S. Maritime "M" award, the Maritime Commission Board of Awards announced recently. Thirty-six manufacturing companies, which had previously won the "M", were awarded Gold Stars for continuing to maintain, or for bettering, past records in the manufacture of ship components for the Victory Fleet program.

Included among those receiving the "M" award was the Washington Stove Works, Everett, Washington, for excellent workmanship and cooperation with Maritime yards in supplying heavy-duty ranges for the merchant ships.

The companies receiving First Gold Star Awards included: Bethlehem Steel Company, Lackawanna, N.Y.; Curtis Lighting, Inc., Chicago, Ill.; Inland Steel Company, Chicago, Ill.; Jones and Laughlin Steel Corporation, Pittsburgh, Pa.; and Youngstown Sheet and Tube Company, Youngstown, Ohio.

General Electric Company, Erie, Pa., was among those companies receiving the Second Gold Star Award.

Third Gold Star Award winners included: A. P. Green Fire Brick Co., Mexico, Mo.; The Linde Air Products Co., New York, N.Y.; and the Wickwire Spencer Steel Company, New York, N.Y.

AGA reports on effective appliance life

In the first report of the American Gas Association Post-War Planning Subcommittee on Engineering, information was included on several case studies of the number of years different appliances were found to produce revenues. Of importance to the utility in this study is the determination of *how many years* a certain appliance will produce revenue, as this factor plus the *amount of revenue* produced yearly, helps determine how much a company can spend on new business to sell a particular appliance.

For the companies studied it was found that each of three major appliances, (refrigerators, automatic water heaters and house heating) would produce revenue for a *minimum of ten years.*

Benjamin electric organization changes

It has just been reported that J. H. Fall, Jr., has retired as Chairman of the Board and Chief Executive Officer of Benjamin Electric Mfg. Company, Des Plaines, Illinois, a position which he has held since 1928. Mr. Fall's retirement follows 32 years of service. According to our report he will continue to act in an advisory capacity on financial matters.

The operations of the company will be directed by Walter D. Steele, who has been associated with the company since its founding in 1901, and as president since 1928.

Other officers elected include the following: Hoyt P. Steele, vice presi-

dent; J. H. Fall III, vice president and general sales manager; C. F. W. Alfvin, treasurer; R. Allen Benjamin, secretary; George A. Hamm, controller; F. G. Klingel, assistant treasurer; C. B. Harlow and Miles F. Steele, divisional vice presidents; and Mary Asping, assistant secretary.

Mullins appoints new G. S. M. for contract division

News has just reached *finish* of the appointment of James E. Britt of Salem, Ohio, as general sales manager of the Contract Division of Mullins Manufacturing Corporation. Announcement was made by George E. Whitlock, company president.

Mr. Britt has been sales manager of Mullins Automotive Division and came to the company in 1925 from Westinghouse Electric and Manufacturing Company of East Pittsburgh where he did pattern work and later development engineering.

According to the report, his work since 1925 has included production planning, scheduling and sales engineering. He has also had actual experience on the production lines.

Earl changes positions

O. L. Earl is to end an 18-year association with Mullins Manufacturing Corp. on July 25 to take a position with Acme Aluminum Foundries Company of Chicago, as vice president and member of the board of directors.

"Ollie" joined Mullins as chief inspector and became in turn service manager, plant superintendent, assistant works manager of the Salem plant, sales manager of the washing machine division, assistant and then general sales manager of the contract division.

P. E. I. honors McBride

As a small token of appreciation for the fine services rendered the Porcelain Enamel Institute by Pierre B. McBride, retiring president, an engraved loving cup was tendered to him during the recent P.E.I. meeting in Cleveland.

The presentation was made by R. G. Calton, past president of the Institute, and executive vice president of Tennessee Enamel Mfg. Co., Nashville.

Pemco announces release of one coat white enamel for application direct to base metal

Announcement has just been received from Pemco Corporation concerning the development and release of what they refer to as the first commercially successful *one coat white*—one fire—direct on the metal—porcelain enamel. The trade name for the new product is "MIRAC", standing for a "*miracle* of progress."

In referring to the new enamel Herbert Turk, vice president of Pemco, said, "For a number of years we have had as our goal a white finish such as has been achieved in MIRAC.

"Experiment followed experiment. We were not satisfied to make just another white ground coat. What we desired was a white opaque finish with all the characteristics of the finest white cover coat and the adherence qualities of a good ground coat.

"Often when we felt we had produced the perfect product, actual usage developed faults. Yes, there were planty of failures. Today, however, MIRAC is more than a laboratory item. It is a fully developed product that has been factory and field tested. The bugs have been removed and it can be used in production in any well equipped enameling plant. It requires no special bond or pickling equipment. Nor does it need special handling. MIRAC has excellent adherence and can be fired at 1500° F. with the result a brilliant, highly opaque finish."

Indirect selling used by kitchenware group

In a recent publicity release by the Enameled Utensil Manufacturers Council the accompanying illustration is shown under the heading "Dye — Don't Buy." This heading, of course, ties in with the current idea of buying new things only when absolutely necessary.

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News from Washington

Renegotiations regulations published

New renegotiation regulations have been issued by the War Contracts Price Adjustment Board.

The regulations issued comprise four chapters and, with revisions of four chapters originally issued on April 19, complete the initial basis codification of the first detailed rules to be publicly issued in connection with renegotiation of war business done by contractors in fiscal years ending after June 30, 1943. Supplements and revisions are to be issued from time to time.

The new chapters, as well as the revisions and additions, are published in the Federal Register and have been released in full to the usual law services.

It is expected that the Superintendent of Documents will publish the Regulations in loose-leaf form and will make them available to the public at a subscription price of $2, which includes 12 monthly supplements embodying revisions.

The agencies to which the Renegotiation Act and these Regulations apply are the War, Navy and Treasury Departments, the Maritime Commission, the War Shipping Administration, and the Reconstruction Finance Corporation for four of its subsidiaries — Defense Supplies Corporation, Defense Plant Corporation, Metals Reserve Company, and Rubber Reserves Company.

Quota restrictions removed on coal and wood stoves

Local War Price and Rationing Boards may now issue ration certificates for coal and wood heating stoves to eligible applicants without regard to quota restrictions, the Office of Price Administration reports.

Generally, an eligible applicant is one who has no stove to heat essential living or working space, or one whose stove is beyond repair within a reasonable time or at a reasonable cost.

It is possible to remove restrictions on the quotas of coal-wood heating stoves, according to OPA, because production is about equal to the total number of persons eligible to buy them and because production during the summer normally exceeds consumer demand. This ruling applies only to coal-wood stoves.

During the first seven and one-fourth months — through March 31, 1944 — 703,000 certificates were issued to consumers for coal-wood heating stoves. During that time 522,000 stoves were produced, but only 467,000 were available for civilian use, making it necessary to dip into dealer inventories for 236,000 stoves.

Resale of iron and steel "simplified"

To relieve certain resellers of iron and steel products of the burden of keeping their excess stocks segregated, the Office of Price Administration has exempted them under certain conditions from complying with a provision in its price schedule covering the resale of iron and steel which requires special invoicing of excess stocks, the agency announced.

This exemption does not apply to the type of reseller known as a "holder." A "holder" is defined as any person who buys an iron or steel product for use in manufacturing, and now wishes to sell material he no longer has need for. The United States Government and its agencies are defined as "holders" when they dispose of surplus materials.

Through Amendment No. 23 to Revised Price Schedule No. 49 (Resale of Iron and Steel Products), issued May 9, 1944, and effective June 1, 1944, OPA had incorporated in the schedule provisions establishing maximum prices for sales of excess stocks of iron and steel products. Sellers were required to mark every invoice issued in connection with a sale with one of the following phrases: "excess stock," "idle or surplus stock," or "idle and excess stock."

Further, the definition of "excess stock" provided that once iron or steel products have been sold by the holder as excess stock they shall continue to be such through all subsequent sales.

The new action provides that a reseller *other than a holder* will be exempted from the special invoice designation requirement if he already has complied with three conditions which the schedule requires him to fulfill in order to be entitled to warehouse price ceilings. Once these conditions have been fulfilled, the exemption applies to all subsequent purchasers and resellers of this material.

Movement of surplus steel and chemicals facilitated by WPB

W. L. Clayton, Surplus War Property Administrator, announced recently that the War Production Board will cooperate with the procuring agencies of the armed services in disposing of property left over from terminated contracts. The board's 13 regional offices will endeavor to find buyers who are permitted under WPB regulations to purchase such surplus materials. Each regional office will have on file a list of property available in its territory and offerings will be made therefrom in conformity with the price policy recently established by the Surplus War Property Administration.

The materials to be listed with the War Production Board will consist of raw materials, semi-finished goods and scrap and will include *steel*, copper, aluminum, *chemicals*, textiles and lumber, as well as purchased parts and supplies. Contracting officers for the procuring agencies are already taking action to dispose of this material.

WPB regional offices, assisted by their district offices, are said to be currently arranging for the movement of approximately 30,000 tons of surplus steel and large quantities of other materials weekly.

Steel supply nears "balance" but sheets remain acute

Supply of and demand for basic

metals for all essential military and civilian programs are more nearly in balance than at any time since Pearl Harbor, S. W. Anderson, program vice chairman of the War Production Board and chairman of its Requirements Committee, reports. Mr. Anderson cautioned, however, that in some metal mill products the balance is precarious, because of manpower losses and expanding military needs for certain specialized items. The statement followed the Requirements Committees' allotments of controlled materials — steel, copper and aluminum — for the third quarter of 1944.

"In making third quarter allotments we had to scale down the stated carbon steel requirements of the various military and civilian claimant agencies by less than one million tons," the committee chairman said. "The military claimants — Army, Navy and Maritime Commission — received virtually 100 per cent of the steel needed, after inventory adjustments, to fulfill their programmed production for the third quarter. It was found necessary, however, to make some reduction in the total requests received from the civilian and export claimants. The situation in flat rolled steel products remains acute."

Survey shows washers most needed appliance

Demand for consumers durable goods and appliances today is close to the levels immediately preceding the war, W. Y. Elliott, War Production Board vice chairman for Civilian Requirements, said in making public the results of the Office of Civilian Requirements' third nationwide survey of consumer needs.

In the survey, made during April by enumerators from the Bureau of the Census, buying information was sought from about 4,500 families, selected as proportionately representative of the total requirements.

Among eleven appliances covered in the survey, washing machines are now in greatest demand, with electric irons and mechanical refrigerators in close second and third positions. Other items covered, in the order of present consumer preference, were cooking stoves, electric toasters, radios, sewing machines, vacuum cleaners, heating stoves, electric fans and water heaters.

One out of ten of all the families interviewed said that they would buy or build a new house now if materials and labor were available.

In announcing the survey results, Mr. Elliott said: "The information obtained from representative families all over the country shows that the American public has conserved its household equipment and appliances and the present demand for these items is largely for legitimate replacement needs or from households which now need appliances they did not have before the war.

"Generally speaking, people have accepted the wartime lack of durable goods and appliances without complaint, and this survey indicates that when such goods become available again, there should be an orderly market rather than the wild buying rush which some people have predicted. When it becomes possible to release materials and facilities for the production of consumers durable goods there should be a smooth transition back to the normal condition of unrestricted supply. The survey results indicate that the American public will follow a sensible buying policy instead of creating a sudden boom market, which might lead to an equally quick collapse."

"The very high level of demand for new houses points toward a market in the construction industry which should remain strong over a con-

Families Who Would Buy Durable Goods and Appliances if All Were Readily Available

Item	Number of Respondents* Would Buy First	Would Buy Second	Estimated U. S. Total, First and Second Purchases	Total Who Would Buy Number of Respondents*	Estimated U.S. Total
Washing Machine	337	134	3,935,676	510	4,261,560
Electric Iron	311	116	3,568,012	481	4,019,236
Mechanical Refrigerator	304	113	3,484,452	458	3,827,048
Cooking Stoves — total	235	99	2,709,904	379	3,166,924
— gas	92	50	1,186,552	159	1,328,604
— oil	58	14	601,632	80	668,480
— wood or coal	56	15	593,276	81	676,836
— electric	29	20	409,444	59	493,004
Heating Stoves — total	72	34	885,736	147	1,228,326
— wood or coal	43	13	467,936	70	584,920
— gas	13	10	192,188	35	292,460
— Portable electric	9	2	91,916	16	133,696
— oil	7	9	133,696	26	217,250
Water Heater — total	48	19	559,852	93	777,108
— gas	24	5	242,324	40	334,240
— electric	14	5	158,764	31	259,036
— wood or coal	9	6	125,340	17	142,052
— oil	1	3	33,424	5	41,780

* Of the 4,488 households interviewed.

(Survey also included toasters, radio, vacuum cleaners, sewing machines and electric fans.)

The table shows the demand only from households that would purchase the items for their own use. For some of the items, such as refrigerators and stoves, this demand may be substantially increased when they are readily available by purchases which apartment house owners and landlords generally might make for the benefit of their tenants.

siderable period of years. Not all of those who have indicated a desire to buy a new house will purchase one which is newly built, but many are anxious to do so. After they have their houses, they will then provide a further market for durable goods to go in them."

For each of the appliances listed, respondents were asked whether they had tried unsuccessfully to buy the item during the last year, how much difference it made to them if they had failed, and finally, "Would you buy a new one right away if there were plenty of everything in the stores?" Those who said they would buy more than one of the items were asked to indicate a first and second choice. The "total demand" figures are the result.

In estimating the total active demand from the survey results, the most realistic figure is probably the total of first and second choices for each item rather than the total number who say that they would buy if the item were available.

New status for export "agents"

Sales made to a so-called agent of a foreign buyer are no longer to be considered as export sales and eligible for an export premium, even though the agent discloses that he takes title on behalf of the foreign buyer, the Office of Price Administration has announced.

Action, effective June 5, 1944, revokes the provision in the Maximum Export Price Regulation which defines export sales as including sales to an agent in the United States who discloses that he takes title on behalf of a foreign principal.

It is pointed out that manufacturers or other legitimate exporters may still secure an export premium when they really sell to a foreign buyer, from whom they receive an order and to whom they invoice, even though the sale is made through the foreign buyer's purchasing agent. Existence of a debtor-creditor relation between foreign buyer and American exporter ordinarily characterizes a true export sale, OPA said.

Removal of sales to agents from the definition of export sales is expected to put an end to the practice whereby export merchants assume the fictitious role of agents while continuing to perform the functions of an exporter. This practice, now prohibited, has led to higher prices to foreign customers and has tended to divert scarce materials to foreign countries, OPA explained.

Vice chairman for OCR outlines policies

Outlining the policies which will guide him in his new office, William Y. Elliott, recently appointed War Production Board Vice Chairman for the Office of Civilian Requirements, said that his primary function would be "to see that the essential civilian production that supports the war is kept going.

"I am not here to press claims that might endanger production of a single weapon needed for the quickest possible victory," he asserted. "What we are programming will help the war effort, not hurt it."

Mr. Elliott revealed that the Office of Civilian Requirements has been given additional recognition with a voice in War Production Board policy making at the highest levels. The following steps have been taken:

1. The Office of Civilian Requirements has been given membership on the top Production Executive Committee.
2. It will also have membership on the staff group set up under the Production Executive Committee to advise Executive Vice Chairman, C. E. Wilson, of the War Production Board. This staff group is made up of representatives of the Armed Services, the War Manpower Commission, The Smaller War Plants Corporation and other agencies. Its function is to plan military production cutbacks so as to permit orderly resumption of civilian production without interfering with maximum war production.
3. OCR will have membership on the Surplus War Property Board.
4. OCR will have membership on the Essential Activities Committee of the War Manpower Commission.
5. It will have an official representative serving as a full member on all Area Production and Modified Area Production Urgency Committees.

The declaration further states:

"The Army is as much concerned as we are in seeing that the essential civilian production is kept running. They share our views that an essential supporting civilian production is part of the war program — so that homes may be kept up, so that the people may be decently clothed, absenteeism halted and the equipment provided which is necessary to maintain a civilian economy. We must press for this essential production to be increased. We do not propose to expand the production of luxury items which would drain manpower from the war production or essential civilian programs.

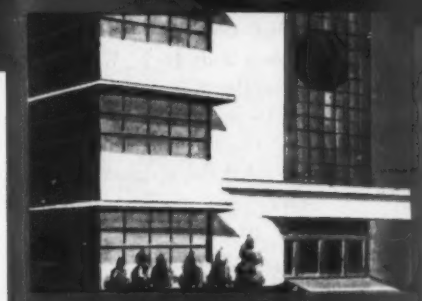
Cancellation of Convention travel demanded

The immediate cancellation of all non-war connected conventions, trade meetings and conferences as well as all non-essential civilian travel have been demanded by Director J. Monroe Johnson of the Office of Defense Transportation.

"With the invasion now actually under way, the demands on the transportation facilities of the country are increasing, not decreasing," Col. Johnson stated. "The pressure of rail shipments of war material has not yet reached its peak. Organized troop movement combined with increased casualty transportation is gaining record-breaking proportions. The hardship involved in the cancellation of business meetings involving travel can not be compared with either the out-right danger such non-essential travel imposes on the war effort nor with the very real physical hardships now being experienced by our military forces."

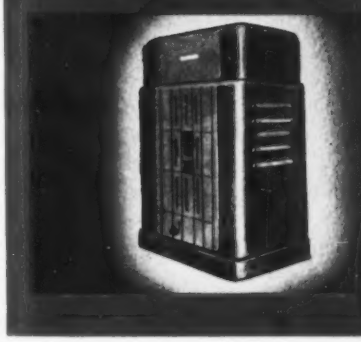
For ordinary cleaning, plenty of hot water and soap will restore porcelain enameled kitchenware to its original sparkling cleanliness.

MAYBE THE ANSWER TO YOUR PROBLEM IS *Here*



UNIFORM ENAMELING OXIDES Hommel enameling oxides are unsurpassed in strength of color and uniformity. Thousands of color shades are available. Absolute uniformity in color has been maintained for over 50 years. We will work with you in eliminating color problems that cause production headaches.

SPACE HEATER ENAMELS Hommel's Heater Brown Oxide contributes sales appeal, and Hommel Frit is all that can be desired in a heater finish. Can be finished using regular ground coat, one coat gloss or matt heater enamels. Special low firing enamels in any color are available.



FLAME RESISTING ENAMELS Hommel's flame resisting enamel will resist temperatures up to 2000° where a protecting finish is needed because of direct contact with flame. Can this enamel be adopted to or improve your product?

SQUEEGEE COLORS, OILS AND PASTES Hommel squeegee colors and oils can't be beat in a time and usage test. Don't risk substitute oils when Hommel can furnish you squeegee oils free of production problems and made from the same formula and uniform raw materials as in pre war days. Tell us your problem.

HOMMELAYA ENAMEL Hommelaya, Hommel's one coat white porcelain finish has been tested and proven on actual products over a period of 10 years. It can save you up to 1/3 over regular enameling procedure. Hommelaya has a definite place and can guarantee the enameler results when recommended by us.

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208 FOURTH AVE.
PITTSBURGH, PENNA.
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L. H. BUTCHER CO.

World's Most Complete Ceramic Supplier

P. E. I. Architectural Forum discussion *(Continued)*

there are methods of accelerating tests so you could tell how long this material would last, even over a shorter period of time. Take a one or two-year test and accelerate it and see what the ultimate failing period is. I don't see that much of that has been done. I don't say porcelain enamel isn't completely durable. I believe it is. I don't think the average practitioner knows that. I think it is up to you people to demonstrate it to them. . . .

"One theory that might help in this trouble about erecting porcelain enamel is to have a maximum of the work done in the shop and a minimum in the field."

G. W. GRAY, *Texlite, Inc.* — "I believe that there may be a different form of this material. Although at present it is manifested in a type of panel construction, I am not too sure that is going to be the manifestation we see in the years to come. . . .

"I believe this problem of chipping is not so much one we find after an installation has been made. In my observation it has occurred mostly in fabrication, shipping, and the uncrating — and it also has been caused by their erection. . . .

"Our construction is unlike other trades. For instance, there is only one way to lay a brick, but there are a "thousand ways", I guess, to assemble architectural porcelain facing. Every company seems to have its own pet theory or own pet device — some patented, some not — and the trade unions are not familiar with all of them. It seems to me we ought to work a little more closely with trade unions in an educational program. They have no conception of how to go about erecting these materials."

A. S. GOLDMAN, *Architectural Forum Magazine* — "All of you have read a lot of surveys on housing, perhaps a survey of your own. Frankly, we don't think the predictions of the million house market is going to come so fast until the building industry produces a better product at a better price. We feel the big advance in housing after the war is going to be in equipment. In other words, houses have always had roofs and walls and floors and those things, of course, will be improved. We think the thing that is going to make a twentieth century house is going to be range, refrigerator, the home freezer, and laundry equipment in the basement.

"Prior to the war, most builders and that included myself, provided only a shell of a house. The purchaser had to buy his own refrigerator and range, and that on a short-term basis. . . .

"At the Forum we have been concerned by the new house market. We called together a group of manufacturers, including all the first-line refrigerator and range people, and discussed the possibility of opening up the builder market to them. They all decided if the range and the refrigerator, automatic washer and other items could be included under the long-term mortgage that it would greatly stimulate their business. . . .

"To bring you up to date: In 42 states FHA offices permit the inclusion of refrigerators under the long-term mortgage, some 41 states a range, 38 states a dishwasher and it goes down to 18 states for the automatic washing machine. That means after the war a builder who is building a product for about $4,500 without equipment, can offer the public, for $500 more, a range and refrigerator and a washer at about $5 a month more. That means that the person who normally could either buy a house or buy a range or refrigerator or washing machine on short terms, can get all those things combined in one package. . . .

"What does this thing mean to your own industry? Well, it means this: In the future the builders are going to put this equipment in the house. The mortgage bankers — and we sampled the opinion all over the country — are ready in good numbers to finance this equipment on a 20 or 25 year mortgage. What it means is that the refrigerator and range have to be a lot better built, and that means they should have a porcelain enameled surface, for one thing. The manufacturer of cheap equipment is going to be out of this picture because none of the banks or savings and loans are going to loan money if this equipment is part of the house, unless the product is durable.

Appliance manufacturers mid-year meeting *(Continued)*

do with the material situation and manpower were covered by Harry J. Holbrook, chief, Appliance Branch, Plumbing and Heating Division, War Production Board, and F. M. Mitchell, chief, Electric Goods Branch, Consumer Durable Goods Division.

The "Future Stove Program" was discussed by Donald Woods, Durable Goods and Products Division, Office of Civilian Requirements.

Ration Order 9-A was covered by John G. Neukom, assistant director, Fuel Rationing Division, Office of Price Administration and Fred Parker, chief, Heating and Cooking Equipment Rationing Branch.

Maximum Price Regulation 64 was discussed by T. P. Kelly, chief, Stove Price Unit, OPA.

Questions had been presented by association members in writing previous to the panel discussion, and others were presented orally for clarification by the Government men.

President's dinner and reception

Chief social event of the meeting was the reception and dinner scheduled for Thursday evening. Featured after-dinner speaker was Henry J. Reilly, Brigadier General, O.R.C. — soldier, lecturer, writer, author and editor—whose subject was "America Up to Date in the War."

The speaker has traveled in all European countries and was "in the middle" of some of the thickest battles in World War I. Recent developments in the present war picture added new interest to his remarks.

In referring to the invasion news, he said, "In the two years and six months since Pearl Harbor we are passing, for the first time, from defensive to offensive warfare." His

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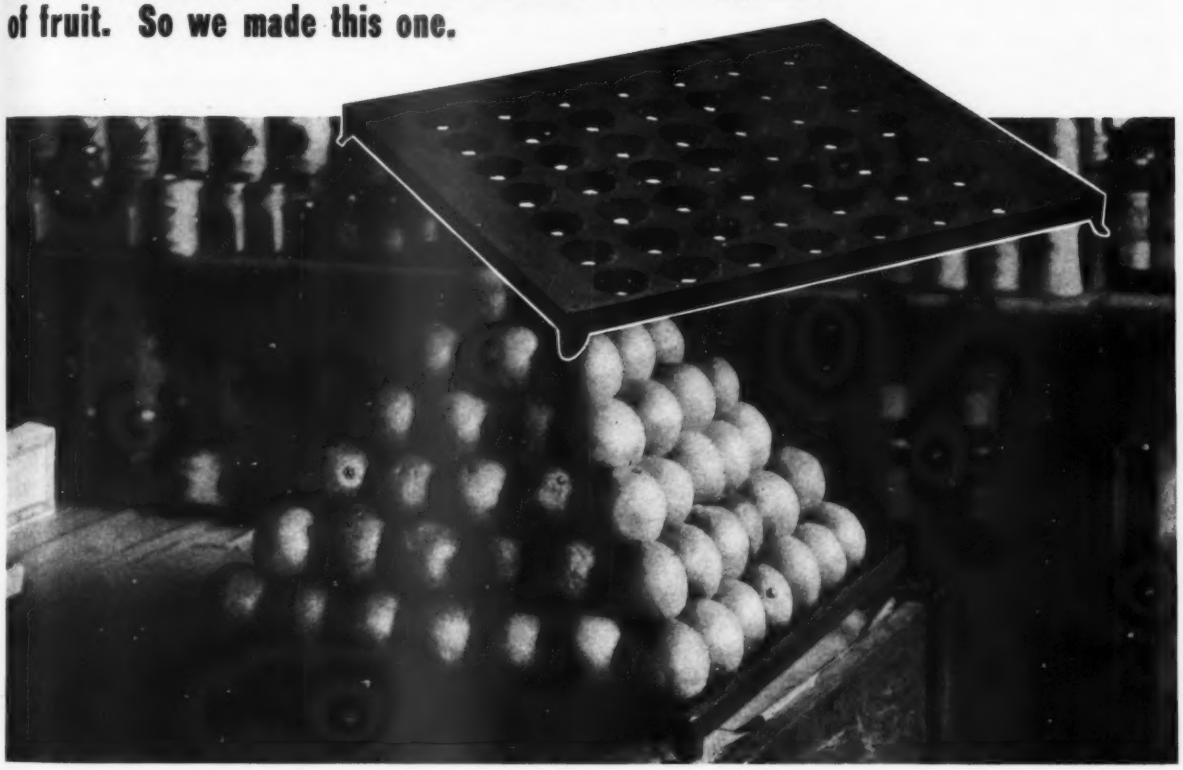
A BRAIN STORM!

Long ago we thought that stores would buy a permanent, sanitary, easily cleaned foundation for a pyramid of fruit. So we made this one.



The stores said, "No, they are too expensive." Perhaps they will change their minds when the new, low cost, one coat finishes are perfected. We still think the idea is a good one.

You are thinking about porcelain enamel for some of your finish needs in the future, aren't you? Don't discard an idea just because it seems in advance of porcelain enamel technique. Maybe we can show you that the idea is thoroughly practical.

For over a quarter of a century we have been working with product designers, helping them to turn brain storms about porcelain enamel into profitable realities.

MAY WE HEAR FROM YOU NOW WHILE YOU STILL ARE THINKING ABOUT FUTURE PRODUCTS?

VITREOUS STEEL PRODUCTS CO.
BOX 1791, CLEVELAND 5, OHIO *(Factory at Nappanee, Ind.)*

Cooperative effort for production . . . *(Continued)*

types of fuels and driers, with a special emphasis on the advisability of using *infra-red drying methods.*

An investigation of *induction heating* and *di-electric heating* indicated that neither of these methods would be economical in our industry in their present state of development. We do not intend to say that they never will be, but at the present time it seems that the equipment and power cost is prohibitive.

enameling steel to help eliminate ground coat. This work is progressing very nicely and there should be something to report in the very near future.

Under the subject of *air-cleaning*, we intend to report what can be done in the way of cleaning up the air in and around our plants — not only from the standpoint of better working conditions, but also from the standpoint of recovery of materials.

Process Development Committee, viewed clockwise: H. D. Carter, Harshaw Chemical; R. M. King, O.S.U.; C. S. Pearce and Edward Mackasek, P.E.I.; A. I. Andrews, U. of I.; J. W. Hoehl, Wolverine Enameling; G. W. Dykstra, Great Lakes Steel; R. E. Taylor, Enamel Products; and F. R. Porter, Inland Steel.

A report on *atmospheric control furnaces* seems to indicate that such control has considerable merit, especially where heavier gauges of steel are being enameled. The report will describe a method of obtaining atmospheric control.

A report on *dipping vs. spraying* in application of ground coats seems to indicate that ground coat spraying is really worthy of consideration. By using the spray method it is possible to obtain lighter coatings with fewer defects than where dipping is used and when the spray is being done with efficient re-claiming equipment the enamel loss due to overspray is actually less than the enamel loss in dipping.

On the subject of *enameling iron development* as affecting processes, an investigation is being carried on to find out what can be done with This report should probably also include the cleaning up of the compressed air used in spraying.

As each of the reports I have just described are shaped up for release, copies will be sent members of the Institute so that they can use the information to help them decide what processes and materials they will need in the postwar era. However, these reports will only be a beginning so it will be necessary to continue investigations of this type.

The Committee is going to need the help of all of you. You will receive from time to time requests for information on subjects dealing with enameling, and the value of the subsequent reports will depend entirely upon how well the questions are answered. Let us suppose now that your committee gets 100% cooperation and that they are then resourceful enough to compile and edit a summary covering all phases of enameling. We would then all have the equivalent of an engineering handbook, a perfect substitute for the engineer in my story at the beginning of this report. It should contain the latest and best knowledge in the industry, so that we could all place our confidence in it and use it in our postwar planning.

This article is based on a report before the Thirteenth Annual Meeting of the Porcelain Enamel Institute.

Industrial Publications

Monorail-Spray Metal Washer Bulletin No. 9

A new and improved design in metal washing equipment, the Monorail-Spray Washer, has been developed by the Metal Washing Machine Division of American Foundry Equipment Company, 555 Byrkit Street, Mishawaka, Indiana. The unit is designed to handle metal parts which must be rotated while they are passing through the cleaning chamber for highest cleaning efficiency. Typical work of this type includes intricate circular parts or those with many ports, crevices or openings.

The new Monorail-Spray Washer is described in Bulletin No. 9, which may be obtained by writing direct to the company or to *finish.*

Blazing New Trails

A brochure from Ferro Enamel Corporation, entitled "Blazing New Trails for Porcelain Enamel," shows reproductions of advertisements scheduled for the publication "Domestic Engineering."

These advertisements sell the idea of a revolution in bathrooms, based on porcelain formed metalware.

Head and Eye Protection

The most easily prevented industrial injuries are those caused by accidents to the eyes. Safety equipment to protect workers from these injuries

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CUSTOM-MADE FOR CUSTOMER SATISFACTION

A few minutes under the heat of a welding torch is all it takes to show you how the uniformly high weldability of Toncan Enameling Iron can improve workmanship and lower costs.

There, you'll see how Toncan Enameling Sheets provide easier, faster welding and uniformly stronger and better welds, without sacrificing enameling properties. These advantages are carefully developed to a high degree of efficiency through correct formulation and proper processing of the metal to meet each individual requirement.

Perhaps deep drawing is a major problem. If so, the same weldable Toncan Enameling Sheet can also be processed to flow freely to the deepest draws without cracking or wrinkling.

Often, sagging in large panels is enamelers' chief worry. But it needn't be—for Toncan Enameling Sheets can be processed to take repeated firings and all types of fabrication without developing waves, warp or twist.

Fabricating troubles of many kinds have come to a sudden end with a Toncan Enameling Sheet that is specifically processed to eliminate the difficulty.

Republic metallurgists, skilled in the metal requirements for enameling processes, can meet the needs for any combination of special properties. So, send your problem to Republic and get an answer made-to-order for your needs.

REPUBLIC STEEL CORPORATION
GENERAL OFFICES • CLEVELAND 1, OHIO
Berger Manufacturing Division • Culvert Division
Niles Steel Products Division • Steel and Tubes Division
Union Drawn Steel Division • Truscon Steel Company
Export Department: Chrysler Building, New York 17, N.Y.

Republic
TONCAN ENAMELING IRON

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is most essential, not only from the humanitarian viewpoint, but because accident prevention is also far less costly than production delays and compensation costs which drain both resources and profits.

Head and eye protection is a highly specialized field, and to those industrial firms interested in the reduction of head and eye injuries the Chicago Eye Shield Company offers a highly specialized book on this subject.

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Appliance manufacturers mid-year meeting *(Cont'd)*

discussion included "strategy and tactics" as applied to large-scale warfare.

Friday devoted to division meetings

Principal divisions of the Institute of Cooking and Heating Appliance Manufacturers had their group meetings on Friday for discussion of problems pertaining specifically to the individual divisions.

Production of war materials throughout the stove industry during the war has proved the ability of this group of manufacturers to convert to new types of manufacturing successfully and produce in required quantities. Determination to keep up required production was voiced throughout the meetings but it is very evident that the industry as a whole is leaving no stone unturned to make proper preparations for the inevitable return to peace-time production.

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Indirect selling *(Continued)*

The selling is done by giving instructions on the proper dyeing of garments. An excerpt from the copy reads:

"Instead of buying new things, dye them, but be sure to use a large vessel to avoid streaking. A porcelain enameled dishpan is most successful. It will hold almost any article without crowding and cleans easily afterwards because the pigment cannot penetrate the smooth, enamel finish."

Cleaning instructions read:

"As soon as the fabric is dyed, empty the utensil and wash it thoroughly with plenty of hot water and soap . . . the dishpan or other enameled vessel may be used for its usual purpose immediately after the dye is removed with perfect safety."

Armor plate, porcelain enameling . . . *(Continued)*

products where heat resistance is an all-important factor in the finish used. Experience in the use of this type finish on these heat producing items has proved the ability of the finish to "take it" under the most severe heat and handling conditions.

Having used this new type ceramic coating over a period of months we find it fits in very well with our production. With a shop laid out to handle it efficiently, and the base metal *carefully cleaned,* ware can be run in worth while quantities with a minimum of floor space, labor and equipment.

Although only approximately 1800 square feet of space is taken up by the actual pickle room, spray room and oven, (space for handling and storage not included), about 4,000 square feet of fabricated steel parts can be run through this small space per day, completely finished in two coats.

Being familiar with both porcelain enamel and the alumina silicate finishes we feel that there is a field for both in the wartime picture. We also believe there are excellent possibilities for both types of finish for peacetime products, but we believe their logical uses are widely enough separated that there will be little possibility for direct competition between them.

The how and why of sign advertising . . . *(Continued)*
Part IV

market condition they continue to maintain their dominance of the store front field. They still have three times as many signs as their nearest competitor.

The dollar value of store front space — choice locations that strike the attention of the prospective buyer as he approaches the very point of purchase—is apparent when you calculate the collective space of one advertiser's store front sign space in terms of regular outdoor-poster rates.

Key position space available

In Peoria, the test city mentioned in Part I, Coca-Cola had 315 signs in major shopping areas. It is estimated conservatively that each of these signs had an area of three square feet. This space is equal to the area of five regular-size outdoor posters. In choice locations in Peoria such posters are worth several hundred dollars a year. The value of a national sign showing, it is easy to see, might well be upwards of a million dollars worth of advertising annually, judged by this yard stick.

It is only fair to compare sign space with the choice poster locations, for what advertiser wouldn't trade his poster space any time for an equivalent space on the store front of his outlets? The dealer signs are point - of - purchase advertising messages. Posters have their advertising value and their legitimate place in the budget. If their messages could all be placed on store front locations they would be even more valuable. The leading sign advertisers recognize the point-of-sale power of signs on or near the store front.

Consequently, in considering the value of a sign advertising program, it is well to keep in mind the value of store front space and undertake the work necessary to take advantage of it. Once you have determined the place of sign advertising in your budget, the nature of your advertising appeal is the next consideration.

What are your signs going to say, what will they look like, what materials will you use? The next three parts discuss these essential questions and give you a wealth of interesting detail drawn from the experience of successful sign advertisers.

READY...

CLYDE Porcelain Steel Corporation has unsurpassed facilities for mass production of porcelain on steel finishes. We are now working 100% on war orders, but our normal facilities and much of our floor space is not in use, and we will be ready to resume production on pre-war products immediately when restriction orders are lifted.

We invite your investigation of our facilities for the post-war market.

CLYDE PORCELAIN STEEL CORPORATION

Clyde, Ohio